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THE OLDEST OIL MAGAZINE IN THE WEST

CALIFORNIA DERRICK

THE OIL AUTHORITY OF THE PACIFIC COAST



Vol. 7— No. 1

San Francisco, September 10, 1914.

Price 20 Cents

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Vol. VII.

San Francisco, Cal., September 10, 1914.

No. 1.

Present Condition of the Oil Industry

NATIONAL AND LOCAL SITUATIONS

"Bettering" is the best word to describe the oil situation east of the Rockies, where almost total paralyzation followed close on the heels of the breaking out of war. As the foreign markets are depended upon to absorb fully 65 per cent of the country's production in the shape of refined products, the enforced cessation of shipments abroad caused immediate drastic curtailment in purchases by the pipe lines and refiners, which was, of course, a solar plexus blow to the producers. In addition to the war, however, there has been a nation wide overproduction and this fact made it very much harder for the industry in general. The producers have had forced upon them the necessity for curtailing their production and have done this to a very material degree. This is especially true in Oklahoma, where a concerted effort is being made by the corporation commission and producers to hold production down so oil will not run to waste or be sold for a fraction of its value.

In the far eastern fields, Pennsylvania, West Virginia, etc., "most of the pipe lines sent notices to their guagers to take oil only from tanks which might overflow," says the "Oil City Derrick." Also, "In Oklahoma all the pipe lines have reduced their runs 50 per cent of what had been formerly taken and in some districts to 40 per cent."

Matters are now bettering, however. A New York exchange states:

"Business at the Constable Hook plant of the Standard Oil, which fell off to a very low point at the outbreak of the war, is gradually returning to normal. George B. Gifford, general manager of the plant, says that business has picked up 40 per cent within a few days. The plant is now running at two-thirds of capacity and daily taking on more men. Several shiploads of case and barrel oil will be cleared during the first week in September for ports in Norway, Sweden, Denmark and England. Four ships are now being loaded for Danish and English ports. Ship-

ments are being resumed to ports in all countries except Germany, and they will increase as more vessels become available."

"Oildom" states that for the first week in September 17 vessels under the Norwegian, Holland and other neutral flags are scheduled to load barrelled oil and refined wax" commenting editorially as under:

"A Great Boom In the Oil Business Anticipated."

"Probably without a single exception, the consensus of all well informed oil men, is that after war conditions are settled there will be an unlimited demand for American oil. This conclusion is forced by the fact, that all the warring nations are drawing on their stocks, that are constantly diminishing. It is therefore inevitable that present temporary depression will be followed by a great boom in all branches of the industry. All of the seaboard refineries are operating as far as possible. The only handicap to prevent greater operations is the great amount of stocks that during the present are not moving rapidly. But as far as possible full preparations are made to meet the great demand for products that will inevitably come."

As holding down production has been forced upon the producer to a very material degree, when the world's markets are again open there is little reason to doubt that conditions will be greatly improved over those prevailing when the storm broke. But even then, there is a big likelihood of overproduction if the producers get too enthusiastic, as the Midcontinent fields can let loose tremendous floods of oil any day that there is a market for it. And on this coast the overproduction was 25,000 barrels daily for the first six months of the year; with an additional 14,000 barrels shut in; and at present the figures have not changed a great deal, and as we have elsewhere pointed out, considerable of our market is closed to us through the closing down of industries directly affected by the war's shutting their normal outlet for their products. Not only this, but there are a large number of wells ready to be brought in, with their excess production to be cared for. The California Oil Industry has suffered least, thus far, of any portion of the Oil Business of the nation, as far as we are able to determine.

The Crude Oil Situation—In California.

The Derrick was the only publication up to August 10th to show the crude oil situation as it actually was up to the end of the first six months of this year and to point out the danger of the ever-mounting production without definite new business in view. When the Standard Oil Bulletin for August made its appearance the first article therein treated the situation to the end of July, showing "a total daily surplus above market requirements of 37,900 barrels." We believe it worth our readers' time to read the Standard's presentation of the situation as they see it, and what they themselves are doing to keep down production. Their statement follows:

During the seven months this year ending July 31, crude oil stocks increased in California at the rate of 23,900 barrels daily. During the entire period mentioned, approximately 14,000 barrels per day of production have been shut in. There has existed, therefore, a total daily surplus above market requirements or demand of 37,900 barrels.

Up to this time, the marketing companies have been fairly successful in providing storage for this surplus. Within the last few days, the Standard Oil Company, owing to the crippled condition of shipping facilities and to the consequent loss of part of its markets, has been obliged to reduce its receipts from producers to the maximum daily delivery permitted by contract, and has been forced to the further position that it will not, pending present conditions, make contracts for the purchase of new oil. The Company will, however, as far as possible, protect the producers with whom it has been doing business.

The loss of the South American and Oriental markets, as well as some of the domestic market, owing to the European war situation, will affect all of the chief marketing companies of California and will undoubtedly mean a large addition to the surplus production now existing, unless the producers take steps to keep their output within bounds by the cessation of development work. The Standard Oil Company has shown its good faith by leading the way, through the practical suspension of development work in the San Joaquin Valley fields, and is doing no development work anywhere that lease conditions do not make obligatory. It is to be hoped that producers will, by restricting their operations, assist in rendering it possible for the oil industry to meet the situation.

* * * * *

A Great Administration.

The manner in which the Administration has met the responsibilities imposed upon it by this war has brought the entire nation to the realization of what an excellent President Woodrow Wilson is; how remarkably he is qualified for his position and to what an unusual degree are embodied in him statesmanship, courage, intelligence.

All Americans returning from Europe, have spoken in unstinted praise of the President's quick action in behalf of American citizens. Great praise is also accorded all our official representatives in Europe, who have been "there" at their posts to give every assistance possible to those in trouble.

And now comes the necessary "war tax." It had to come. There was no getting away from it; the money is necessary; the war has cut off the usual source of supply. Bonds, as the President has pointed out, would not do. The reasons are so obvious that it would be a waste of time to enumerate them, but the chiefest will bear mention: The excessive cost of bonds. Not only must the entire principal be paid back, but, dependent on interest and

the term of years for which the bonds run, often double the amount from which the public derives any benefit, is paid for the use of the money raised, hence a direct tax will be levied; it is the cheapest, quickest and best way to raise the money. The only complaint that this country can reasonably make is against the warring nations who have cut off the income temporarily. And even this may be a commercial benefit in disguise, as it may directly result in building up American industries to supply what has heretofore been imported.

* * * * *

Exports of Petroleum Products From California In July.

The total exportation of all classes of oils shipped from California to foreign countries for the month of July, reached 46,183,859 gallons, valued at \$1,310,000. This amount is approximately 5 3/4 million gallons less than the June shipments, in quantity, while returns are a little less than \$175,000 smaller than for June. Southern California makes a nice showing compared with last month. The August exports will reach the lowest figures in a long time, on account of the war, is the general conclusion. Following is our regularly presented table showing the July shipments in detail:

	Gallons	Dollars
CRUDE		
Southern California	2,520,000	45,000
ILLUMINATING		
San Francisco	14,595,740	677,166
Southern California	1,001	182
LUBRICATING and PARAFFIN		
San Francisco	246,115	29,723
Southern California	877	154
NAPHTHAS, GASOLINE, ETC.		
San Francisco	484,390	41,947
Southern California	9,850	966
RESIDUUM, GAS OIL and FUEL OIL, ETC.		
San Francisco	28,298,098	514,024
Southern California	27,758	838
Total San Francisco	43,624,373	1,262,860
Total Southern California	2,559,486	47,140
..Grand total	46,183,859	1,310,000

The total shipments from the entire country during July aggregated 230,269,485 gallons, valued at \$14,036,049. The total national shipments for the first seven months of this year amount to 1,348,173,539 gallons, valued at \$86,482,167.

* * * * *

Condensations.

England has in storage "three years consumption of oil for the whole of the existing oil burning fleet," according to Sir Winston Churchill.

Germany imported 220,000,000 gallons of kerosene from the United States in 1913.

Ninety per cent of the illuminating oil trade in the Philippines is now supplied by the S. O. Co. of New York.

The "John D. Rockefeller" is the largest oil tanker to fly the American flag. The "Rockefeller" was launched August 8th. She is the property of the Standard Oil Co. of New York. The new tanker is one of the largest and best constructed in the world.

Oklahoma produced 45,600,650 barrels of oil the first half of 1914.

Drake Anniversary Successful—The 55th anniversary of the striking of oil in the Drake well was held at Fieldmore Park, Titusville, Pa., on August 27th. It was a very successful gathering of oil men, a large number of whom were pioneers, under the auspices of the Drake Memorial Association.

The Settling Tank

Presenting Brief Resumes of Informative Bulletins, Addresses and Like Matter, Gleaned From the Most Reliable Sources

England's Oil Burning War Fleet—Of exceeding interest at this time is J. D. Henry's contribution of information concerning England's oil-burning war vessels, which we herewith present:

The number of vessels ENTIRELY DEPENDENT on oil fuel include: Five battleships of the Queen Elizabeth type (super-dreadnoughts); One battle cruiser (the Tiger); Sixteen light cruisers; One hundred and nine destroyers (the fastest vessels in the fleet); Thirty-six torpedo boats.

The number equipped to burn OIL and COAL include: Thirty-eight battleships (dreadnoughts); Seventeen battle cruisers; Twenty-one light cruisers. There are also several smaller vessels partly fitted to burn oil and coal.

A number of Eastern Pipe Lines have filed their tariffs with the Interstate Commerce Commission. The first "regulation" the Magnolia Pipe Line Co., stipulates is:—"It will receive crude petroleum for transportation ONLY WHEN THE SHIPPER HAS PROVIDED THE NECESSARY FACILITIES FOR RECEIVING SAID PETROLEUM AS IT ARRIVES AT DESTINATION." A very interesting regulation to prospective users of the great California trunk lines under our State Common Carrier Act.

"Methods of Recovering Oil In California," Technical Paper 70" of the U. S. Bureau of Mines, gives the following interesting facts regarding the kinds of power used in the 6223 wells being operated during last November. By steam power, 2095 on beams and 536 on jacks; by electricity, 559 on beams and 310 on jacks; by gas engines, 1217 on beams and 1042 on jacks; and by compressed air, 247. The balance making up the total of 6223, to the number of 217, were flowing, naturally. The output last November was 7,574,300 barrels. There are more wells being operated electrically today than when these figures were compiled and probably were flowing wells with a considerably smaller number on the beam. The plunger pump is the heart of the oil business, as except in the flowing wells, it is the sole method of recovering the oil. "Technical Paper 70" is filled with the best compiled, most interesting and most authoritative information on the subject of which it treats.

Manufacture of "Casing Head" Gasoline in California. There are at present 14 plants manufacturing "casing head," or "compression" gasoline in this state. The total daily output is estimated by C. H. Gilman, of the Oil City Derrick, as 22,450 gallons, an annual output of 8,194,250 gallons, or 195,101 barrels. This showing is a genuine triumph for conservation, though not of the kind the politicians are greatly interested in, as all this product is squeezed from gas that up until about four years ago was permitted to flow unrestrained from compression of their former waste product. The Companies engaged in the gas compressing business are: Puente Oil Co.; Pacific Gasoline Co.; Union Oil Co.; American Gasoline Co.; Purity Gasoline Co.; Rice Ranch Oil Co.; Pinal Dome Refining Co.; Frank Hall; Hurley-Smith-Collins Co.; Olinda Gasoline Co.; A. F. Gilmore, Montebello Oil Co.; Turner Oil Co. With the single exception of the Turner, all the plants are located in the Santa Maria and Southern fields.

"How to Make America Industrially Independent." Just before going to press we received from Dr. George Otis Smith, Director of the U. S. Geological Survey, the following letter under date of Sept. 4:

The Editor, California Derrick, San Francisco, Cal.

DEAR SIR:—I take pleasure in inclosing herewith a copy of a bulletin entitled "Our Mineral Reserves," just issued by this Survey. I believe that Europe's war furnishes America's opportunity to enlarge the scope and extent of its mineral industry, and this paper has been written to meet the present demand from the public for information. If you care to have copies of this publication sent to business men of your acquaintance please inform me.

Yours very cordially, (Signed) Geo. Otis Smith.

The value of the metal output of California in 1913, according to Chas. G. Yale, of the U. S. Geological Survey, was \$26,812,498; an increase of \$428,543 over the previous year's value. This is a fraction more than half the total value of last year's oil output.

Rates of Duty on Iron Pipe in South America.—A statement of the rates of duty on cast iron and wrought iron pipe in South America has recently been compiled by the Bureau of Foreign and Domestic Commerce. Copies may be obtained by pipe manufacturers and shippers upon request.

Motor Ships Successful.—The annual report of the East Asiatic Co., Ltd., for the year 1913, contained the following noteworthy statement: "The Company's motor ships have worked satisfactorily in every respect, amply fulfilling the hopes expressed in the appendix to the last two yearly reports, and they have realized considerably larger net profit, as compared with the steamers." Three of the Company's ships have just been transformed from steamers to "Diesels". Five new ships, varying from 5500 tons gross register to 4500 tons, were scheduled for completion during the months from March to September, and in addition: "In view of the success of Diesel motors, the Company has decided to build a sailing ship of a little over 5000 tons dead weight, and also fitted with an auxiliary screw, driven by a 600 h. p. Diesel motor." In not so many years the steam freighter will have become a memory.

"Waste of Oil and Gas in the Midcontinent Fields" is the title of Technical Paper 45, U. S. Bureau of Mines, by Blatchley, just come to hand. The paper is very complete and very much worth while to California operators not already conserving their gas. The Derrick published in its last issue Dr. J. W. Holmes' address on the subject of conserving the gas. Those operators who have not taken much interest in gas conservation will be very interested in this bulletin. As to the matter of conserving gas associated with oil, referred to by Dr. Holmes as a problem; this matter has been solved by Dr. E. A. Starke's gas trap, discussed elsewhere in this number of the Derrick.

Electric Lights For Use About Oil and Gas Wells.—A brief paper, Petroleum Technology, 19, U. S. Bureau of Mines, has been written with the above title. Paper points out danger of use of electric lights in "gaseous places" and says bulbs WITHOUT TIPS are preferable, while protection of the bulbs by "metallie guards" is said to be "highly desirable." A number of worthy suggestions are made.

The U. S. Government exhibit at the Panama-Pacific International Exposition in San Francisco has been divided into sixteen divisions or sections, representing all of the executive departments, except one, and seven independent offices and commissions. The departments to be represented by exhibits are State, Treasury, War, Post-office, Navy, Interior, Agriculture, Commerce and Labor, and the other divisions comprise the Civil Service Commission, the Isthmian Canal Commission, the Library of Congress, the Smithsonian Institution, the Commission of Fine Arts, the Government Printing Office and the American National Red Cross.

Bureau of Mines Exhibit at the Exposition here in 1915 will be unique in that a very comprehensive program has been prepared for the purpose of interesting the general public in the mining business, with the idea of educating the visitors to a better understanding of the magnitude of the various mining and metallurgical industries. What the Bureau of Mines is doing in an educational way towards the conservation of lives and complete utilization of natural products, will also be comprehensively displayed. An exhibition mine beneath the floor of the Palace of Mines and Metallurgy will be the scene of the Bureau's activities. Pretended explosions will take place, miners will be rescued, all mining appliances will be exhibited, a model miniature mining town will be shown and mining activities will be in every detail better presented, both to the mining specialist and the layman, than ever heretofore.

Columbia University Highway Engineering Lectures

The Derrick has received from Prof. A. H. Blanchard, of the graduate college of highway engineering of Columbia University, reprints of a number of lectures by very famous highway engineers, delivered before students of the graduate course during the past year. We are glad to give the titles of a few of these lectures for such of our readers as might wish further information:

"Cost Data in Highway Engineering" by Major W. W. Crosby, C. E., D. Sc.; "Organization and Methods of Street Cleaning Departments," by Wm. H. Connell, Chief of Bureau of Highway and Street Cleaning, Philadelphia; "European Rock Asphalts; Obtaining, Preparation and Uses," (mentioning typical rock asphalts of the U. S.), by Col. J. W. Howard, C. E., E. M.; "The Highways of Panama," by H. W. Durham, Chief Engineer in charge of highways, Borough of Manhattan, New York City; "Responsibility of Contractors for the Construction of Roads and Pavements Designed by Engineers," by Harold Parker, manager Hassam Paving Co., Worcester, Mass.; "Manufacture of Refined Coal Tar," by Phillip P. Sharples, Chief Chemist Barrett Manufacturing Co., Boston; "Gravel and Its Uses in Highway Construction," by Paul D. Sargent, Chief Engineer Maine State Highway Commission.

These are but a few of the very valuable lectures delivered before Columbia students in the Highway Engineering College last year. The names of the lecturers and their positions, should be sufficient indication of the value of the matter presented. If there is sufficient demand for the publication of any of these lectures the Derrick will publish same. Columbia's College of Highway Engineering gets the very best men in the business to give practical instruction to the students.

National Transit Co., Oil City, Pa., has just issued two very valuable booklets, Bulletins Nos. 10 and 11, entitled "Pumping Machinery." The Company makes the announcement that Bulletin 10 is the first of a series which it is intended shall constitute a flexible catalogue by being bound in loose leaf covers by the recipient. It is further stated that the Company "is now installing additional, modern equipment which will greatly increase its already enormous manufacturing facilities," and that particular attention will be paid to repairs of its apparatus, so that "customers may not be embarrassed on account of breakdown for long periods." Both bulletins exhibit high class workmanship.

Santa Barbara County Bond Issue of \$1,000,000, is being considered for the purpose of providing, once and for all, a complete road system throughout the county, independent of but supplemental to the State Highway. The road improvements are of interest to oil operators chiefly because all the oil districts are expected to be included in the betterments. A big move, thus far purely prospective.

Construction Contract for the State Highway, from Orem to Santa Maria, has been awarded to a Los Angeles company. This section is 6.5 miles long and the bid accepted was for the sum of \$61,000. Within a few weeks the entire State Highway in Santa Barbara County is expected to be contracted for and under construction.

Standard Oil's Conservative Estimate of Proven Oil Acreage in California

The following very conservative figures for California's proven oil acreage were presented in the August Number of the Standard Oil Bulletin, together with their resume and explanation of their methods of determining the figures:

In the accompanying tabulation the proven area of the California Oilfields is shown as 78,770 acres, equivalent to 123.08 square miles.

In determining the figures, the boundary lines of the proven area are drawn 200 feet or 300 feet outside the proven field. In case of outlying single wells, the field is credited with about fifteen acres.

The figures therefore represent the actual proven area and give no consideration to territory that is generally regarded as proven but is not fully drilled. A large part of the Buena Vista Hills, in the Midway Field, for instance, is considered to be oil territory, but the wells in most cases are far apart and only fifteen acres of proven territory are allowed to each well.

The proven acreage as shown is, therefore, low as compared with figures made by others. Other estimates have run as high as 100,000 acres or 156.25 square miles. Following is the table:—

TOTAL PRODUCTION AREA, AND PRODUCTION PER ACRE OF CALIFORNIA OIL FIELDS
TO DECEMBER 31, 1913

FIELD	Proven Acreage	Total Production Barrels 1912-1913	Prod. Proven Per Acre
Midway-Sunset ..	35,265	126,992,597	3,600
Coalinga ..	14,170	137,078,649	9,670
Kern River ..	7,650	166,681,556	21,790
McKittrick ..	1,345	38,257,915	28,450
Lost Hills-Belridge ..	2,600	8,128,824	3,130
Santa Maria-Lompoc ..	7,890	61,853,061	7,840
Los Angeles and Salt Lake ..	2,665	45,064,471	16,910
Newhall and Ventura County ..	3,825	15,611,579	4,080
Whittier-Fullerton ..	2,930	55,587,896	18,970
Summerland ..	230	1,958,246	8,510
Miscellaneous ..	*200	855,152	4,280
Total ..	78,770	658,069,946	8,350

*Estimated

Conservation of Gas and Oil in California



THE LARGEST GAS TRAP IN THE WORLD

Standard Oil's successful device for saving the gas from the largest gushers and separating the gasoline from the gas. The trap shown is located in the Whittier Field, on the Standard's Murphy Property, and handles thirty million cubic feet of gas and one thousand barrels of oil every twenty-four hours. Precipitation of the gasoline contents of the gas is as thorough as if a compressor were used and much more economical.

Necessity is the mother of invention. The truthfulness of this proverb has again been demonstrated in the conservation of gas and oil in the California oil fields.

The conditions under which gas is found in the State of California differ radically from those obtaining in all other oil fields of the world. In the Eastern States, gas is found generally in well defined fields, and contains comparatively little oil, and in no instance, unless it be in Oklahoma or Louisiana, is the amount of gas associated with oil in commercial quantities. In other words, the commercial gas in the East is practically dry, and the necessity for a device to separate crude oil therefrom not pressing.

With the advent of the Midway field it was found that the great gushers frequently produced millions of cubic feet of gas and this gas escaping from the oil would carry with it vast quantities of gasoline, so that the producer not only lost the gas, but the value of his oil was reduced owing to the loss of gravity occasioned by the escape of gasoline. The producer soon discovered this fact, and chemical technicians revealed to him that this gasoline could be conserved by compression of the gas and cooling.

Compression plants of this kind were installed by various producing companies located in Santa Maria, Midway and Southern California. The life of such a plant depends on the longevity of the gusher and also upon the quality of the products produced. Because it is well known that the gas escaping from wells is selective in its action on the crude oil, and therefore the composition of the gaso-

line varies with the different wells, unless the Company is lucky enough to strike another large well, its compressor investment is likely to be lost. Therefore, every producer with one large well producing "wet" gas with the oil, cannot afford to install a compression plant and go to the trouble of marketing his goods. Conservation of gasoline with the use of a compression plant must therefore be limited to a few favored companies, with a plentiful supply of gas from a number of wells.

In the above picture is a device that has been installed by the Standard Oil Company in all its producing properties where there is gas to be conserved. This appliance is capable of handling any gusher wells regardless of their size or the pressure of the gas, and has proven so uniformly successful that the Standard Oil Company has practically abandoned all their compressor plants.

The trap, as it is called, not only conserves the gas from the greatest gushers, but also prevents the escape of the gasoline which is compelled to remain with the crude, thus raising its gravity and maintaining the homogeneity of the crude oil so that upon subsequent distillation, natural, uniform products are obtained.

The "Standard Oil Bulletin," in a recent issue, devoted a paragraph to the fact that it had dismantled its compression plant; this new method of conserving the gasoline in the escaping gas has taken the gas compressor plant's place on Standard Oil properties. It is more economical and is being adopted by a number of companies.

(Continued on page 10.)

California Derrick

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"Midway Driller" Taft, California.

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

The effect of the opening of the Panama Canal is already being felt here. Ships from Atlantic ports are constantly arriving and others departing from this port for their various destinations along the eastern coast—mostly, thus far, for New York. The stevedores here are working overtime loading and unloading American boats. There is a direct benefit to one particular class of the "laboring man." Other benefits, to all of us, are going to be found in reduced prices for goods as a direct result of the tremendously lowered freight charges from coast to coast via water, and the new market available for many Pacific Coast products that couldn't be sent to the east at a profit by rail. This means a big boom to many industries and especially to growers of farm products. The canal is already proving a Godsend to this Coast.

* * * * *

Now that American shipowners can register their ships in America on a competitive basis with ships under foreign registry and can fly the stars and stripes, oil shipments to neutral countries can be resumed; but that doesn't make the vessels themselves any more American than they were before, and the "tank" merchant marine is just as subject to seizure if going to one of the warring countries, as before, because oil is still "contraband" of war.

* * * * *

The raising of Attorney General McReynolds to Supreme Court Justice and the appointment of Thos. W. Gregory of Austin, Texas, to the vacated post of Attorney General, will cause no change in the method of procedure in the suits for recovery of oil lands now being carried on by the Government. E. J. Justice will continue in active charge of the prosecution. So say the newspapers.

* * * * *

Franklin K. Lane paints a very rosy picture of the "Effect of the European War on American Industry;" so does George Otis Smith, Captain Robert Dollar, of the Dollar Steamship Co., and any number of prominent men.

But in the meantime, it's hard getting accustomed to the new conditions, and that's the plain, hard truth.

* * * * *

For the past four years nearly \$125,000,000 per annum, of oil products have been exported from this country. Shutting off the biggest part of this exportation was bound to be felt by the Industry.

* * * * *

Standard Oil's refusal to take more oil than contracted for, brought not a few operators up against the hard fact that the war is in progress. The Agency's "50 per cent" delivery was another hard jolt for the producer.

* * * * *

There is 136,000,000 barrels of oil in steel storage in the United States at the present time, and an estimated overproduction of 300,000 barrels daily. "Too much of a good thing" for it to be a good thing for the producers!

* * * * *

Five thousand barrels of gasoline daily is "some" gasoline, but that's California's present output. It's a record that "can't be beat."

* * * * *

The war affords that long desired opportunity to prove the superiority of oil burning battleships.

* * * * *

How Long Will the War Continue?

Everyone asks the question! Everyone hopes it won't be long for selfish if for no other reasons, but few seem to believe that there will be an end to the Napoleonic business until one side of the other is decisively defeated. Of course, utter exhaustion of resources, following the annihilation of armies and total devastation of great areas of productive territories, with the complete paralyzation of all lines of industry as a natural concomitant, would force an end of fighting, else all would starve to death. But this side of such a terrible prospect of war's prolongation, where can the end be seen save in the decisive defeat of one side or the other? Will "honor be satisfied" with merely the shedding of blood in about equal proportions all around? That won't get much for any of them, excepting of an unacceptable nature, such as debts of tremendous proportions, wasted property, wasted trade, and wasted civilized happiness. British and French statisticians have already estimated the cost of the war at \$55,000,000 per day, and the total to Sept. 4, as \$1,870,000,000! Which brings the cost thus far greatly in excess of two billions. If the money cost doesn't count, nothing can count but annihilation of life and property, and starvation. Hideous as the prospect is, the fight is on to a finish, and as all the combatant countries are doing their utmost, the end may be much more speedy than can at present be foreseen. In the meantime, the press dispatches show General Sherman's three-word summary of war the best description ever uttered or penned, and give increasing reason to American citizens to thank President Wilson for his policy of "watchful waiting."

* * * * *

"The Great Paradox"

Under this title, in its issue of August 29, the Scientific American editorially scored "the unsymmetrical development of the mind of man" on which the writer of the editorial blamed the war, claiming that—"Our progress in the control of Nature for the benefit of mankind has been equalled only by the splendid intelligence with which we have perfected means of slaying one another *** As scientific men, while half of us work for the establishment of heaven upon earth, the other half strengthens the possibilities of an increasingly ghastly hell.

IN THE CALGARY FIELD



Upper left, running pure gasoline from "Dingman" No. 1, the discovery well, into a 50-gallon steel barrel. Center, "Dingman" 1 in foreground and "Dingman" 2, in the distance to the right. Bottom, left, close view of "Dingman", and, to the right, close view of No. 2, which has just come in. The photo shows anticlinal formation above Sheep River. Upper right photo shows how public lined up May 15 to buy stock in the Calgary Petroleum Products Co., the day after the strike. Calgary went oil mad and stayed mad for weeks after the strike. At present there are reported to be 35 wells drilling with considerable prospects of success. The Derrick has postponed the publication of a special article until more is known about the fields than is at present available for publication.

"This towering paradox will now be resolved * * * * The war lords triumph over the apostles of peace; but only for the moment * * * * The foundations of peace are too firmly laid * * * * The FOOLISHNESS of war! More and more will this thought permeate the consciousness of the whole world * * * * (In this war) We are not witnessing the triumph of the destroyers. We are witnessing their vast collective suicide! At present we play their game. But after—there shall be no more war lords. The paradox will be dissolved." And so on.

AND, ON THE SAME PAGE, under the caption, "The Command of the Sea," commenting on Germany's abandonment of its magnificent international commerce and

shipping to destruction by England, France and Russia, there appears the following: "For the United States this tragedy carries an obvious lesson. There is every possibility that the conclusion of this war will find us in the possession of a numerous and well equipped merchant marine; and if we are wise, to pay heed to a warning which is so plainly written that "he who runs may read," WE SHALL SEE TO IT THAT OUR NAVAL STRENGTH IS INCREASED IN SUCH PROPORTIONS THAT SUCH A DISASTER AS HAS SWEEPED AWAY THE GREAT GERMAN MERCHANT MARINE CAN NEVER OVERTAKE OUR OWN!"

"The Great Paradox"—fully exemplified!

The principle upon which the method was worked out was the natural separation of the associated oil and gas in a long chamber, a ten-inch pipe, which is tapped at short intervals of space by "risers" into which the gas flows while the oil and sand flow along from the well's own continuous pressure, in the bottom of the big pipe. In the big trap shown the main pipe is 800 feet long. When the oil and sand reaches the end of the pipe it is drawn off into a receiving tank, where the sand settles. As the gas is taken off at the various points on the upper surface of the pipe, a gas rush is prevented, so that the pressure is uniformly maintained over the entire surface of the oil as it passes along the pipe. When the gas leaves the oil it contains only such of the light products as would be proportionate to the pressure, which, as already mentioned, is a very slight proportion, the gas being virtually dry.

The "risers" or stand-pipes are separately controllable, so that any number may be thrown into or out of use as the conditions may require.

The particularly valuable features of the trap may be summarized about as follows: First, it SAVES every drop of oil and every cubic foot of gas produced by the well to which it is attached. Second it SEPARATES the gas and oil so that the gas, after passage through the trap is practically "dry," and whatever quantity of the lighter gravity hydro-carbons would otherwise escape is RETAINED IN THE OIL. Third, it DOES AWAY WITH EXPENSIVE COMPRESSOR INSTALLATIONS, which may or may not prove to be justifiable expense and is certainly not justifiable if a more economical (in original cost) and more generally applicable device can be obtained. Fourth, its use complies with the law prohibiting the free escape of gas, when possible to prevent. Fifth, this is primarily a "gusher gas trap" and saves the gas where other traps have thus far failed. It is by the successful working out and application of such devices as this that the Standard makes profits where many other operators fail. The trap was devised by Dr. Eric A. Starke, who patented it October 8, 1912. As far as is known, no royalty has yet been asked by Dr. Starke for the use of this most successful device.

Production, Consumption and Field Operations During July, 1914

Daily average production dropped 6000 barrels in July, as compared with June, registering 296,296, a total for the 31 days of 9,185,176 barrels. Shipments totalled 8,392,744 barrels, leaving a surplus for the month of 792,432 barrels of all grades of crude. Daily surplus is thus 25,562 barrels. There is also the potential surplus shut in, amounting to 14,000 barrels daily. See general review elsewhere. The 42 new wells completed in July had an initial daily output of 14,770 barrels. Two of the wells brought in June have increased their output very greatly since then. These are Miocene Oil's No. 2, in the Midway field, increased 2000 to 8000 barrels daily, and Turner Oil's No. 7, Coalinga, increased from 3000 to 4000 barrels daily. More wells are also shown on production than the 42 completed since at the end of June there were 6178 operating and at the end of July 6261, an increase of 83—double the number completed. Big wells were brought in in July by the following Companies in the Midway field: Midland Oilfields, well No. 4, 6000 barrels daily, 25.1 deg. gravity; Honolulu Consolidated No. 3, 1500 barrels daily, 30 deg. gravity; Consolidated Mutual, No. 10, 1000 barrels daily, 27 deg. gravity. In

Coalinga the Turner Oil Co.'s No. 9, section 2, 20-15, came in with 2400 barrels daily initial flow; gravity 30.5 deg. B.

Following is our regular table:

FIELD	New Rigs	Drilling	WELLS		Production Per Day
			Completed During Month	Abandoned During Month	
Kern River		5			20,115
McKittrick	1	3			11,597
Midway-Sunset	26	65	24	2	146,344
Lost Hills-Belridge	3	12	1		13,992
Coalinga		22	5	4	45,057
Lompoc and Santa Maria	1	15	1		11,365
Ventura County and Newhall	1	29	3	1	2,728
Los Angeles and Santa Lake		2	2		7,111
Whittier-Fullerton	4	96	5		38,564
Summerland					102
Watsonville					75
Total	36	249	42	7	296,296

Total crude oil stocks, July 31, 1914, 52,937,438 barrels
Total shipments from fields, July, 1914, 8,392,744 barrels.

* * * * *

Texas' Mineral Production increased in value nearly 40 per cent in 1913, the total being over \$30,000,000. Petroleum is the leader in mineral value in Texas, which is the fourth largest oil producing state. The value of the 1913 oil output represents 45 per cent of Texas' mineral products, production totalling 15,099,478 barrels for which the given value was \$14,675,593. The output increased from 11,735,057 barrels in 1912, to the amount given, most of the increase coming from the Electra field.

PARKFIELD DEVELOPMENTS

Development Work Not Retarded.—Neither the war nor other conditions have affected the development in Parkfield adversely. The flow of interested operators to and from the district continues as steadily as before the war. **Spokane-Parkfield Oil Co.**, section 13, 23-14, is about to resume operations. Boilers are being overhauled and wells cleaned out. Four wells are fair producers at this time. All are shallow, the deepest being 513 feet. A promising company. **Future Success Oil Co.**, has resumed drilling operations on section 18, 23-15, after a two week's finishing job. They expect to get the "pay" at about 2000 feet. **Monterey Oil Co.** is reported ready to resume. **Parkfield Syndicate** is making hole steadily and the manager expects to bring in a well in the near future. **Middle Ridge Oil and Development Co.**, at last reports, had its derrick completed and rig up and is probably "making hole" now. **Parkfield Pioneer Oil Co.** at last reports, anticipated an early start developing its 7000 acre tract.

FOR SALE—Parkfield District — 165 acres patented land; close to drilling operations: one water well on land contains some oil. This is an excellent oil prospect. For full information address Frank LaVine, 131 1-2 North Broadway, Los Angeles.

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Interesting Developments of Recent Date

Union Oil Co.—After rescinding the 2 per cent dividend, payment of which was authorized for August 25th, due to the war, and extending their contract with the British Union Oil Co., which for the same cause was unable to make its scheduled second payment of 2 1-2 million dollars on August 1, the Union's directors have issued over the treasurer's signature, a financial statement of the business done the first six months of 1914. The contract with the British Union was extended to April 1, 1915. In case the British Union is unable to complete its purchase the Union of California will issue to the British Union an amount of California Union's treasury stock equal to the sum paid in, which amounts to \$2,400,060. The Union's net earnings for the first half of the year are given in the report as \$1,327,428.88. Sales show an increase over the same period for year 1913. For the month of July the sales were the largest in the Company's history, "being just under \$2,000,000." Fuel oil returns show an average advance of 7c per barrel over 1913 prices. The Company's production increase 400,000 barrels over the corresponding period in 1913. The report is a "rosy" one, expressing the utmost confidence in the Company's future, as the following paragraph will show:

"Changes that have taken place in the company's financial and commercial situation during the six months just closed are so markedly beneficial and wholly in its favor that we may confidently look forward to the maintenance of this position through whatever stress and storms the general condition of affairs may bring to pass."

The Union's report also expressed the anticipation that "operations for the last half of the year will probably be more or less seriously interfered with, particularly in the export of fuel oil." But several weeks ago it was given out—and the news was hailed joyously—that the Chile Exploration Co., a Guggenheim mining corporation, was closing a deal with the Union for a minimum delivery of 90,000, and a maximum of 225,000 barrels of fuel oil per month, deliveries to start in December of this year.

Slowing Up and Shutting Down.

Independent Agency Orders "that the oil to be accepted from any member during the month of September SHALL NOT EXCEED 50 PER CENT of what was received from him or it during August." This means half time only—in many cases complete shut-down. MASCOT OIL CO. has already shut down. STANDARD OIL has shut down where possible; in the fields and to a small extent in the refineries at Richmond and El Segundo. UNION OIL has laid off 40 men in the Santa Maria field and will lay off others where condition demand. ASSOCIATED OIL, operating all its vessels under the American flag and having no foreign trade, is the one big marketing concern not curtailing up to the present. Its pipe lines are running to capacity and its business is said to be unaffected by the war to date.

Palmer Union Oil Co., Santa Maria field, has levied assessment No. 4 of 1 cent per share, delinquent sale Oct. 7. The rotary-drilled well, No. 11, is said to be making as high as 500 barrels per day, flowing. No. 10, being re-drilled, is 2950 feet. The war has not affected the Palmer, which has a contract for all its oil until Jan. 1, 1915. The management says that a statement of conditions in general, will be forthcoming at an early date.

Midway Northern and Interstate Oil Co.'s have both brought in enormous wells recently, but are not permitting them to produce a drop.

Standard and Associated Dividends—Standard pays \$2.50 Sept. 15th, and Associated \$1.50 Oct. 15th.

Oil Land Locators Win Doubly.

We quote the following from the Oil World:

"Time for appeal having expired and no appeal having been filed by the government in the McCutchen case, Los Angeles land office, further resistance is not expected to the issuance of patent to the southwest quarter of 32, 12-23, the "Hawk" location. The claim is being developed by the Obispo, J. D. Spreckles, Queen, General Petroleum and Pacific Midway company.

"Objection on the part of the government to the application for patent was based upon the charge that "dummies" were included among the locators. The McCutchen brothers were able to explain away all apparent irregularities and to establish the fact of good faith, and the land office officials approved their application."

The Oil World also says that the \$200,000 surplus in the Agency treasury will be "disbursed among the Agency members very shortly."—Pleasant news!

Agency's July Sales totalled 85 per cent of the oil received from members. The price received was the highest in over two years, 41 cents per barrel. The Standard's taking 50,000 barrels monthly is a big help to the Agency at this time and Agency members openly express their satisfaction.

Shell Company has just received a big cargo of East Indian gasoline. The tanker that brought over the gasoline will return immediately with kerosene. The "chances of war" do not now seem to bother the shippers greatly as Standard Oil this past week sent out three British shiploads to Japan, China and British Columbia.

The Stock Market

San Francisco's Stock Exchange is open again and oil quotations are issued daily. The quotations certainly show the effect of the war as well as the general apathy of the market for stocks at this time. Following is the list of quotations September 8th:

Amalgamated Oil, \$72 asked; Coalinga Central, 15c bid; Coalinga Mohawk, 70c asked; Palmer Union, 2c asked; Rice Ranch 10c bid; Turner \$2.50 bid; Union Oil of Cal., \$50 bid; W. K. Oil, 40c bid, 50c asked. Out of 92 listed stocks, there are bids for five stocks.

The Derrick is a fair, clean exponent of the Oil Industry. Tell your friends about it, if they have any oil interests; or, better still, make them a present of a year's subscription. Every time they receive their Derrick, they'll say to themselves: "I can thank friend ——— for this good publication. He's all right." \$2.00 per year gets it.—Foreign \$2.25.

OIL FROM THE MEXICAN EAGLE OIL CO.'S "PO-TRERO DEL LLANO" WELL, the world's greatest oil well, has been burning for about two weeks; the burning oil is from the seepages surrounding the concrete building which protects the well, to the amount of about 17,000 to 18,000 barrels daily. Those in charge planned, at the last reports, to put the fire out with steam.

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COALINGA

Guy H. Salisbury's Special Report

Kern Trading & Oil Co. has just contracted with **W. D. Head Drilling Co.** to drill its second well on section 11, 20-15, the drilling company agreeing to carry down the 10-inch to 3100 feet. This property is in the section adjoining the holdings of the **Turner Oil Co.**, and the inference is that the **Turner's** high-grade oil is sought by the **S. P.'s** subsidiary. **American Petroleum Co.** is having an excellent success handling its "water oil wells," much of the success being due to the improved system of handling the air with which the wells are pumped. **Standard Oil's Domengine No. 2** has reached 2183 feet, 10-inch casing, where the well will be cemented and the hole finished with **Standard tools**. Indications very encouraging. A well will extend the field's recognized limits a good two miles northward. "Pay" is expected to appear at about 2500 feet. **K. T. O. Co.** will finish well 29 on 35, 19-15, between the 10th and 20th of this month, barring accidents, at 3520 feet, 6 1-4 inch casing. Plenty of gas suggests big well. **Commercial Petroleum**, section 31, 19-15, is redrilling No. 11; has already redrilled No. 15, from which a good production is being secured and generally improving its property. **Fairbanks-Morse & Co.** have abandoned their Coalinga business, sending all their small supplies to Los Angeles. Dullness is the reason. **Inca Oil Co.**, operating the northwest 1-4 of 24, 20-14, has installed a central power plant to pump the 18 wells with a jack. Two jack pumps carry the oil from the wells to a central distributing point. This installation cuts out six 70-h. p. boilers, services of three men and saves a lot of fuel, being one more step in economical production of California oil. If new system results as expected, the balance of the wells, numbering 20, on the balance of the property, will also be run by jack power. Many operators believe that it will not be a great while before all the wells in the West Side Coalinga field will be "jack operated." **Shell Co.'s Tank Farm**, on the **Oilfields, Ltd.**, property, section 4, 20-15, is completed. **The Valley Pipe Line Co.'s Construction Work** is proceeding as scheduled. At **Turk Station**, 8 miles east of Coalinga on the **S. P. Railroad**, 150 men are at work on the pipe line. This is the distributing point for the first 30 miles of construction work. About 250 animals are hauling the pipe and supplies along the right of way. When completed, the line will be about 170 miles long. **St. Paul Cons. Oil Co.**, on 23, 20-14, has installed 3 new boilers in a central boiler plant, each of 70 h. p. The Company has done away with two old plants, reducing expenses all around. **British Cons. Oil Corp.** has completely shut down. The company has a large amount of oil in Agency storage at present. Adjoining properties are not drawing very heavily on the oil in the formation at present. **Farming operations in this region**, around **Ora**, **Huron**, **Summit Lake** and **Pulvadero**, are highly successful and pretty soon it may be the rage to turn oil companies into farming companies, if the war and overproduction continue; at least this is the joke going the rounds in town. Very fine, abundant crops of wheat, barley, Egyptian corn and other grain have been harvested in the districts mentioned, making big profits for the growers. When oil is a memory agriculture will flourish richly here.

(Continued from page 9.)

"Wishing That the War Would Cease."

The armies of Europe are "tenting tonight on the old camp ground," where from time immemorial nation has met nation and has drenched the grounds in blood, just as they are being drenched today. There are probably very few human beings who delight in slaughter for slaughter's sake; few of the combatants, we venture, rush to battle with a great killing lust in their hearts; the regular army goes because that's its business, while volunteers enlist to protect their country. Patriotism is one of the deepest and noblest of all human emotions. They are mighty brave men who are "tenting tonight," on no matter which side they fight. The victories thus far are mostly those of King Death; and every victory He wins, brings sadness to some home.

Not only in the countries where the war is raging, but here in the United States, millions await with great anxiety the news of the result of each battle, for America is the "melting pot" of nations, and millions of American citizens have blood relatives in the older countries. There are undoubtedly thousands of families in this country with one or more members in the different armies now battling. It is often said that war is hardest on those left behind the lines of battle. We would hesitate to venture an opinion on this, but certain it is that absolutely no advantage which it is thought might come to this country as a result of the war, could for a minute weigh in the scale with the joy with which America would welcome the quick ending of international conflict.

Universal Eight Hour Law looks like a bad proposition, a driller writes us. He evidently fears its passage because he says: "This law, if passed, will make three shifts or 'towers' necessary—eight hours per 'tower'—and that will mean we will get \$4.00 a day instead of \$6.00, and it's hard enough to live out on this sage land for \$6.00, without it being cut to \$4.00. I wish you people (the Derriek) would fight against this crazy law, which would impose such a hardship on us drillers *** Very truly —" The Derriek won't do any such thing as to "fight against" the passage of the law, because fighting or passing this law is the people's business. But the letter as quoted, shows how a good many drillers undoubtedly feel; they don't want a law which they feel is disadvantageous to their own welfare.

We do some politics when we respectfully request lovers of the wild life of California (not meaning "Dead Game Sports") to vote YES on the NON SALE OF GAME law on the ballot coming before the people November 3rd. When you vote YES, you help to preserve California's wild game from extermination. The U. S. Department of Agriculture says: "The free marketing of wild game leads swiftly to extermination." (Yearbook 1910, P. 254.) If you vote "NO", you vote to swell the pockets of a few restaurateurs and to undoubtedly sacrifice California's wild life for all time.

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Our Railroad Oil Lands

By T. S. MINOT

Editor's Note: This is the clearest, most up-to-date and most thoroughly informative article on this subject yet to appear in any oil publication, and shows beyond question of doubt, the American people's ownership of the Oil Lands under discussion. **THIS ARTICLE IS COPYRIGHTED.**

Pedro Fages was the first white man to discover petroleum in California. In 1772, while in pursuit of deserters, he was in the immediate vicinity of Buena Vista Lake, and traversed the region where some of our present oil fields are now located. (San Carlos, Nov. 27, 1773. M. A. Arch. Genal Californias, 66.

Provided with a banner, on one side of which was portrayed the Holy Mary, and on the other a lost soul, Padre Garces entered the Tulare, or great central valley of California in 1776. He was the second Spaniard to find the oil fields of this state, having reached, on that date, the section where Bakersfield is now situated. (Cal. Under Spain and Mexico, Richman, Pg. 113

The Southern Pacific Railroad Company, of Beechmont, Kentucky; the Southern Pacific Railroad Company, of California; and the Kern Trading and Oil Company of the Flood Building, discovered that petroleum was a mineral on June 22, 1914, with the assistance of the Supreme Court of the United States; just one hundred and forty two years after Pedro Fages found it near Buena Vista Lake and realized that it was neither an animal nor a vegetable. Fages knew one thing, and that was:—that it belonged to the Kingdom of Spain, and he did not stop to consider and did not care whether it belonged to the mineral, vegetable, or animal kingdoms. The Southern Pacific signed just as Fages did, and decided that it belonged to the kingdom of the "Espee;" and that is its present condition in history, geography, jurisprudence, geology, and politics.

The early Mission fathers knew of its existence and used it in repairing their buildings, and for other purposes. At that time it belonged to the spiritual kingdom.

Later on, after California had been stolen from the good Padres by the Mexicans, and still later, after James K. Polk, Edward O. Larkin, and John C. Fremont had "separated" it from the Mexicans, oil was again discovered in many places up and down the coast, and in the interior. This was in 1863, and the beginning and place of this "finding" was at Petrolia, Humboldt County. The state became

wild with oil land speculations in 1864, and 1865, and "The Bulletin", the principal journal of the day was the first to stem the current of wild cat investments. (Petroleum in California, Redpath; also, All San Francisco, and the Valley papers of that date; Philadelphia Railroad and Mining Register, Dec. 3, 1864; Records County Clerks office Fresno, Tulare, and Kern Counties; Natural Wealth of California, 1868, Cronise, Pg. 117; Correspondence in Dept. of Interior, Washington D. C.; also New York papers, and all papers in the United States published at that time.)

During the first part of 1909, oil was discovered on Railroad lands near Coalinga by one Edmund Burke and others. **THIS WAS ABOUT FORTY-FIVE YEARS AFTER FRANK DUSY, AND JOHN CLARK, OF BEAR VALLEY HAD EACH LOCATED ONE HUNDRED AND SIXTY ACRES OF OIL LANDS IN THE SAME SECTION.** The records show that their locations were made December 21, 1864; **NEARLY TWO YEARS BEFORE THE GRANT**, which is the subject of this article, was made; and in one year, seven months, and five days before the officials of the Southern Pacific Railroad Company had learned to read and write the English language, or study the newspapers.

Organization and Construction of Roads

In 1865, the Southern Pacific Railroad Company of California, was incorporated to construct a railroad from San Francisco south to Los Angeles, and San Diego, and thence easterly to the State line; there to connect with the Atlantic and Pacific, which was building westward from Springfield, Missouri, by the way of Albuquerque, New Mexico. Later the Atlantic and Pacific was benevolently assimilated by the Atchieson, Topeka and Santa Fe, which completed its line to Los Angeles in 1883. In 1884, the "Southern Pacific Company" was incorporated under the laws of Kentucky, and absorbed the "Southern Pacific Railroad Company," and the "Central Pacific Railroad Company" together with all connecting lines, finally ingurgitating the Union Pacific Railroad Company itself; and with these nearly all of the best legal brains in California.

Now the unromantic, and dry legal history of the Land Grant in question begins, and only the material and pertinent parts of the various Acts are copied.

All mineral lands reserved by Congress, on July 4, 1866.

"In all cases lands valuable for minerals shall be reserved from sale, except as otherwise expressly directed by law."

The Original Grant of July, 27, 1866.

"Every alternate Section of public land, not mineral, designated by odd numbers to the amount of twenty alternate Sections per mile on each side of said railroad line, as said company may adopt, through the territories of the United States, and ten alternate Sections of land per mile on each side of said railroad whenever it passes through any state, whenever on the lines thereof the United States have full title, NOT RESERVED, SOLD, GRANTED, OR OTHERWISE APPROPRIATED. * * * * * WHENEVER PRIOR TO SAID TIME, ANY OF SAID SECTIONS SHALL HAVE BEEN GRANTED, SOLD, RESERVED, OCCUPIED BY HOMESTEAD SETTLERS, PREEMPTED OR OTHERWISE DISPOSED OF, OTHER LANDS SHALL BE SELECTED BY SAID COMPANY IN LIEU THEREOF, UNDER THE DIRECTIONS OF THE SECRETARY OF THE INTERIOR, IN ALTERNATE SECTIONS, and designated by odd numbers, not more than ten miles beyond the limits of the said alternate sections. * * * * * PROVIDED FURTHER, THAT ALL MINERAL LANDS BE, AND THE SAME ARE HEREBY EXCLUDED FROM THE OPERATIONS OF THIS ACT and in lieu thereof a like quantity of unoccupied and unappropriated lands in odd numbered sections nearest to the line of said road, and within twenty miles thereof, may be selected as above provided.

And provided further, that the word "mineral", where it occurs in this Act shall not include iron and coal."

**Patents To Issue To Railroad To Extent and Amount Granted By Act, July 27, 1866.
Joint Resolution, June 30, 1870.**

"It shall be the duty of the Secretary of the Interior to cause patents to be issued to said Company for the Sections of land co-terminous to each constructed Section reported on as aforesaid, to the extent and amount granted to said Company by said Act of July 27, 1866, EXPRESSLY SAVING AND RESERVING ALL THE RIGHTS OF ACTUAL SETTLERS, TOGETHER WITH THE OTHER CONDITIONS AND RESTRICTIONS PROVIDED FOR IN THE THIRD SECTION OF SAID ACT." (This act passed at Railroad's request.)

Jerome Madden's Oath

"That said lands are vacant, unappropriated and are not interdicted mineral nor reserved lands, and are of the character contemplated by the grant, being within the limits of twenty (20) miles on each side of the line of route."

Final Decree of Commissioner of General Land Office and Secretary of the Interior, Hoke Smith. Patent No. 22.

"That the tracts described covering four hundred and forty thousand, nine hundred acres, and twenty-five hundredths of an acre, be approved and carried into patent as the lands falling within the grant by the Act aforesaid to the Southern Pacific Railroad Company of California, EXCLUDING, however, from the approval and from the transfer in the patent that may issue "ALL MINERAL LANDS" should any such be found in the tracts aforesaid, but this exclusion, according to the terms of the Statute shall not be construed to include Iron and Coal."

G. W. LAMEROUX, Commissioner.
HOKE SMITH, Secretary.

Interested readers should bear in mind that the President issues the patent, not the Secretary of the Interior. The Chief Executive acts upon the final decree of the Secretary of the Interior. That decree is a judgment. Hoke Smith excluded all mineral lands from the transfer in this patent. This is true for the record shows it; besides he informed the author that he had excluded these mineral lands and prohibited their transfer in the patent. Consequently, they ARE JUST WHERE HOKE SMITH PLACED THEM.

Patent Issued by President Grover Cleveland, July 10, 1894.

"Yet excluding and excepting 'All mineral lands' should any such be found in the tracts aforesaid, but this exclusion and exception, according to the terms of the statute shall not be construed to include 'coal and Iron lands.'"

Railroad Accepts Grant.

The Railroad Company, by a resolution passed November 24, 1866, accepted "the terms, conditions, and impositions of said Act of Congress of 1866" also the joint Resolution of June 30, 1870, when it applied for a patent.

Railroad Inserts Exception Voluntarily, in 11,300 Contracts and Deeds to Purchasers of Its Lands

This makes over eleven thousand "admissions against interest" on the part of the railroad. The clause in contracts and deeds reserved to the Government any mineral lands included in the transfers—no reservations to private individuals were ever made by the railroad. (Number of deeds and contracts estimated.)

Government Withdraws Lands.

On September 27, 1909, the Secretary of the Interior made a "blanket" withdrawal order of government lands in California, and included much acreage held by the Railroad Company. President Taft again withdrew the same lands, and others, on July 2, 1910, based on the Pickett Bill of June 25, 1910.

Two Schools of EMINENT LEGAL MINDS passed upon the occult meaning of the withdrawal of railroad lands with Government Lands. Sapient counselors, learned in the law, claimed that the Railroad Company was "one of the people" and were in " cahoots " with the government, and were being protected at Washington. Others, just as sagacious, claimed that the lands belonged to the nation and that it withdrew them to protect its own property—but the railroad continues to abstract the oil. You may draw your own conclusions. I maintain that the government is impeccable—that is—not "erokked."

Burke Discovers Oil.

On or about December 7, 1909, Edmund Burke, after suing the Espee at Fresno, from all points of the compass, filed a suit in the Federal Court at Los Angeles, against the Southern Pacific Railroad Company, and everybody else that he disliked, regardless of "age, color, or previous condition of servitude". This paradoxical, heterogeneous, hodgepodge of immature allegations was duly presented to the Honorable Erskine M. Ross, one of the Judges of said Court backed up by a debacle of words, and fortified by every decision ever made from the time of Magna Charta down. This complaint was challenged by demurrers filed by the Southern Pacific Railroad Company, and T. S. Minot. The Court sustained the demurrers. There was nothing else to do for the Complaint was wierd and wonderful, in its legal aspects; salient and necessary facts and parties were omitted, and the whole document made Burke look like a "Stalking Horse" for the Southern Pacific. The Burke case went to the United States Circuit Court of Appeals, and was certified to the Supreme Court of the United States on seven different questions propounded by the lower Court.

The Supreme Court decided every question, except one, in favor of the Railroad Company.

Commenting on this decision it can be said, with due respect to the Court, that, in case of war, with no modern fuel for our battleships, we would be in a bad position, as a nation, but all of those things must be put aside by reason of political prestige and influence resting with the Railroad Companies, and their affiliated organizations.

Underneath the private attack involving these oil lands was fraud, bad faith, and lack of legal knowledge and consistency. Before the railroad is condemned, or the Supreme Court exonerated, by anyone, they should first become acquainted with the actors, the first-instance men; after that they should "forget it".

It was never the intention of any one but Burke and his followers that an attack should be made on the patent. The patent was nothing but EVIDENCE. The true foundation of any suit was the grant, the oath of Madden, and the final decree of the land office. This judgment of the land department was based upon the Statutes, and was valid.

The Complaint was supposed to raise a legitimate question of fact; something to be tried out by the Court. The patent was immaterial, except for its "calls". There was but one issue: Was the land of a mineral character, or was it agricultural?

Under the Articles of Confederation, which preceded the adoption of our Constitution, none of the Colonies relinquished their title to any of the public domain within their boundaries. When the Constitution was ratified no title to any public lands was permitted to vest in the Federal Government. By the Constitution, Congress only has control over the public lands (Article IV., Constitution of U. S.). Congress had the power to dispose of the public lands, but the constitution interdicted any prejudice to any and all claims of the United States; (meaning the states individually, not the public Corporation, not the United States as an entity) "and the laws of the United States which shall be made in pursuance thereof * * * * * shall be the supreme law of the land; and the judges in every state shall be bound thereby, anything in the Constitution or laws of any State to the contrary notwithstanding." (Constitution Article VI, Section 2). The enumeration of rights, under this organic law, has always been construed to not impair or deny others retained by the people. (Articles of Confederation, Article 2.) Under the Constitution which was adopted, and was founded upon the Articles of Confederation, THE OWNERSHIP OF PUBLIC LANDS WAS, AND IS, IN THE PEOPLE; Congress may control or dispose of them, but the government itself can have no title. (See Veto Message of Andrew Jackson. Dec. 4, 1833) He says: "It was only upon the condition that those lands should be considered common property, to be disposed of for the benefit of the United States, that some of the States agreed to come into 'a perpetual union'. Such being the case private parties had a right to locate on these lands, and they were the 'successors in interest' of the United States, after the grant had been made, and they had the right, if properly before this Court, to en-

force their interest and protect such rights as they possessed, or had retained under the provisions of that instrument, and the Articles of Confederation, upon which it was firmly based." (Messages and Papers of the Presidents. Vol. III., Pg. 56. Richardson.)

Relying upon the foregoing authorities, it is safe to say that the end is not yet. According to Holy Writ it is conceded to be a truth that: "He that, being often reproved, hardeneth his neck, shall suddenly be destroyed, and that without remedy," and, "He that diggeth a pit shall fall into it; and whoso breaketh a hedge, a serpent shall bite him." This may be construed to mean Government ownership, in this particular case, for it is the only practical remedy for all the people in the future.

THE OIL LANDS OF THIS STATE ARE NOW IN THE HANDS OF POWERFUL COMBINATIONS OF CAPITAL; THE GOVERNMENT IS THEIR PUISSANT ALLY, AND THE POOR MAN, OR INDIVIDUAL IN MODERATE CIRCUMSTANCES IS FORECLOSED OF ANY AND ALL OPPORTUNITIES, AS FAR AS OUR MINERAL LANDS ARE CONCERNED. Courts are not to blame for deciding cases according to their ideas of law and justice; that is their prerogative. True, judges are under oath to uphold our constitutions and laws, but, they must decide according to their own opinion, not according to ours. If critics would stop to consider, for one moment, they would realize that a judge, under oath, is responsible to God, not the prominent human Jackass who would, if he could, hold the jurist to account to him, instead of the Almighty!

In conclusion, I am of the opinion that the Supreme Court rendered a just decision in the Burke case, that is, and will be of vast benefit to the oil regions in this state, and elsewhere, for the present. Judge Dooling's decision, striking down the iniquitous withdrawal order of Ballinger, was a signal exemplification of strong juridical common sense. Representative Raker has forced leasing bills to the front in Congress with unquestioned energy and great executive ability. Secretary Lane has more than done his part in relegating improper laws and conditions to the slag pile of history. E. J. Justice is forcing all government cases to an early trial, and all indications point to better times, higher wages, and general prosperity.

T. S. MINOT.

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Union Oil's Chartered Tanker Elsinore Sunk—The Elsinore, a British-owned tanker, chartered to the Union Oil Company, carrying a full cargo of 60,000 barrels of fuel oil, was sunk by the German Cruiser Leipzig on September 15, presumably off the coast of Southern California. Captain and crew were transferred to the Leipzig before making the Elsinore a target, and were conveyed to the Galapagos Islands, off the coast of Ecuador, where they were marooned, but succeeded in getting word to the Company. Fears are felt that the Oberon, also a Union Oil tanker, met the same fate as the Elsinore, as she left Port San Luis the day after the Elsinore. From the first of the month to the seventh, the Union's tanker Oleum was run in the United Engineering Works shipyard on the Estuary at the foot of Webster Street, Alameda. On the seventh inst. she was flying the American flag at her stern, steaming off the waterfront. Whether this means that the Union is to change all its ships to American registry, the Derrick does not know. The Standard and Associated fleets, as mentioned elsewhere, fly the Star and Stripes. British, French and Japanese warships are now reported in pursuit of the Leipzig.

TO WHOM IT MAY CONCERN:

Announcement is made that we have brought suit under our United States Letters Patent Numbers 883,630, 958,698 and 968,454 for Casing Wrenches (or pipe tongs) and devices for screwing and unscrewing pipe, against the UNION TOOL COMPANY and THOMAS J. GRIFFIN, of Los Angeles and Torrance, California, and GUIBERSON & MILLS of Coalinga and San Francisco, California. We have been advised that the wrenches and the like manufactured and sold by these defendants are direct infringements of our said Letters Patent, and that these defendants are deliberately pirating upon our patents and illegally interfering with our business of supplying the trade with the well known DUNN CASING WRENCHES (OR PIPE TONGS.) Our wrenches have been so favorably received in the field for a long period of time that our success has apparently induced these parties to place upon the market the infringing imitations of which we have complained to the Court. These suits will be vigorously prosecuted to thoroughly protect our interests, and we believe it but fair to give the trade and field-users notice that we are taking these legal steps to uphold our rights and to prevent invasion of same. Other infringing manufacturers will be likewise prosecuted.

DUNN MANUFACTURING CO.

Oxnard, California.

(Builders of Dunn Patent Oil Well Tools)

October, 1914

Statistics, Production, Exports

Production, Consumption and Field Operations During August, 1914.

The material facts concerning the output and marketing situation up to the end of August, as shown by the Standard Oil Company's figures, are as follows: Production was almost the same as for July—293,943 barrels daily average, which is a slight decline, amounting to only 2,353 barrels daily. The total production for the month was 9,034,854 barrels. Over-production, including "shut-in" production, is still estimated well in excess of 40,000 barrels daily, and allowing for the injury to the copper supply market, it may be over 50,000 barrels per day, though Standard Oil's statement does not enter into this matter. Shipments from the fields—not necessarily directly to market, totaled 285,833 barrels daily. It is opined that an unusual bulk of this went into new storage, recently completed in many of the fields, particularly in Coalinga, Midway, and El Segundo and Richmond refineries. But thirty-seven wells were completed, having a total initial daily output of 10,105 barrels. As Standard Oil's Emery No. 11 was responsible for 3,000 barrels of this, the remaining wells, inferably, were "average" or small producers, and most of them, probably, held in. The Standard, in presenting its figures, again took occasion to state its position relative to purchases from producers as follows:

"While the situation on the whole is more hopeful, the conditions existing do not permit the Company to extend its crude oil purchases. For the present it must continue the policy already defined, namely, that it will purchase no new oil and will accept from purchasers only the maximum delivery permitted under contracts. As contracts expire the Company hopes to renew same based upon production existent at the time of contract expiration."

Following is the table presenting such details:

FIELD—	New Rigs	WELLS				Production Per Day
		Drilling	Completed	Abandoned	Producing	
		During Month	During Month	During Month		
Kern River.....	2	5	1	..	1,449	19,250
McKittrick.....	2	2	2	..	263	10,784
Midway-Sunset.....	10	54	21	..	1,422	147,777
Lost Hills-Belridge.....	..	8	3	..	243	13,009
Coalinga.....	2	19	2	..	871	45,286
Lompoc and Santa Maria.....	1	17	..	..	237	11,140
Ventura County and Newhall.....	1	28	1	..	425	2,738
Los Angeles and Salt Lake.....	..	1	1	..	686	7,957
Whittier-Fullerton.....	5	97	6	..	553	36,679
Summerland.....	..	..	..	..	102	148
Watsonville.....	..	..	..	..	5	75
Total.....	23	231	37	..	6,256	293,943

Total crude oil stocks, August 31, 1914, 53,188,857 barrels.
Total shipments from fields, August, 1914, 8,860,824 barrels.

fly the American flag and its business with neutral nations is unaffected save in a very general way. Standard Oil of New York, however, does its foreign shipping in foreign vessels, as does the Union Oil Co. The Associated boats fly "Old Glory", so it stands to suffer a minimum amount, if it suffers at all, in exporting its products. The loss of the Elsinore, the Union's big new tanker chartered from a British Company, shows that it pays to be American, even if patriotism did not dictate flying the Star-Spangled Banner.

Following is the regular table showing exports in detail:

	Gallons	Dollars
CRUDE		
San Francisco	None	
Southern California	1,534,000	49,500
ILLUMINATING		
San Francisco	9,211,896	432,915
Southern California	1,063	179
LUBRICATING AND PARAFFIN		
San Francisco	314,615	37,781
Southern California	338	113
NAPHTHAS, GASOLINE, Etc.		
San Francisco	680,411	107,185
Southern California	13,001	1,088
RESIDUUM, GAS OIL AND FUEL OIL, Etc.		
San Francisco	24,454,473	433,224
Southern California	1,470,110	24,507
Total San Francisco	34,661,395	1,011,105
Total Southern California.....	3,018,215	75,387
Grand totals	37,679,907	1,086,492

The total shipments from the entire country during August amounted to 145,557,792 gallons, valued at \$7,837,291, as compared with the July total of 230,269,485 gallons valued at \$14,036,049.

Pinal-Dome Service Stations Around Bay.—"Perfection" Gasoline, the Pinal-Dome Refining Company's excellent juice, is now being marketed all around the Bay in ever-increasing quantities. In addition to their big central station on the Estuary in East Oakland, the Company has the following stations scattered throughout the territory being served: Oakland, Eighth Ave. and East Twelfth; Second and East Twelfth, and Fourteenth and Harrison Streets; Berkeley, Shattuck and Durant Avenue; Alameda, 1324 Park Street. The Company has a Los Angeles branch at Thirty-seventh and Santa Fe Avenue, and a branch in Santa Barbara. A high class description of the Pinal-Dome's refinery in Santa Maria occurred in the "Santa Maria Times," issue of October 3d.

Two Hundred Miles of "Hole".—The Standard Oil Co. recently gave out the statement that over two hundred miles of "hole" was drilled in California during 1913—575 producing oil wells were completed at an average depth of 1,866 feet. The total depth is 1,072,950 feet, or 203.21 miles. This figure does not include the dry holes drilled. The average initial daily production of the wells completed was 313 barrels. The Derrick estimates the "hole" mileage for the current year at not more than 150 miles if shut downs are continued.

Exports of Petroleum Products from California in August

August oil exports from this State did not show the falling off anticipated in many quarters, though there was a drop of 8,503,952 gallons, which was more than sufficient to satisfy anyone that the war is hurting oil, as it is hurting nearly every line of business. But California oil did not suffer nearly as much as Eastern oil. And oil isn't as badly hit as copper. And the best that can be done, local marketers say, is merely to go ahead and get a new business at home to make up the loss. Standard Oil, for instance, is bending its great energies to expanding trade in this country as much as possible. But it has had to curtail its operations to a considerable degree, especially in field work. Standard's ships all

California Derrick

The Oil Authority of the Pacific Coast

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

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* * * * *

If anyone thinks that the S. P. owns the oil lands it is now holding and draining, let him read Mr. Minot's article in this issue.

* * * * *

No Gasoline Tax was the pleasant news flashed from Washington on the 7th inst. The money that was to have been raised by the proposed gasoline tax will be raised on intoxicants.

* * * * *

Leasing and Relief Measures.

News dispatches from Washington State that the Ferris and Church bills are again undergoing changes in the form of amendments, which is proof to us that our original decision not to publish changeable measures, was sound. The Derrick will publish such leasing and relief measures as finally become law.

* * * * *

Forty-eight Measures To Be Voted on November 3d!

One of the most momentous elections days ever held in California is the coming 3d of November. There are, in addition to the Senatorial, Congressional, Governor's and Judgeships, other State and County offices to be voted upon, **forty-eight** measures submitted to the electors. Of these, **thirty are Constitutional amendments**. Every measure is of importance; all are liable to do either much good or much harm. Obviously an oil journal is no medium for the discussion of forty-eight proposed laws, at one time; there would be no room left for oil. But we want to say to our California readers, just this: **Study those questions before election day**. Then you can do your duty.

* * * * *

Some Significant Facts.

A statement by Dr. George Otis Smith, Director of the Geological Survey, recently issued, places the responsibility for the over-supply of gasoline in California on the importation of same from Sumatra by the Dutch-shell Combine.

At the same time the Dutch-Shell pipe line proposes to give Sir Marcus Samuels, for the Rothschilds, \$500,000 for promotion fees. (This has been held up by the Railroad Commission.) Further, the Dutch-Shell are purchasing no oil from individual producers. Still further, they reserve the right in their papers incorporating the Valley Pipe Line Company to fight the law restraining possible monopoly just as long as the law will let them.

Putting it all together, this is what is happening: The market for gasoline and lubricants that could be supplied by California oil producers is being occupied by foreign gasoline and oil. 2—To quite an extent other than home labor is employed. 3—In the matter of the big promotion fee, same must be paid for by the California properties of the local branch.

* * * * *

Price Reduced!

The last reduction in prices to producers, and the other unusual efforts made by the Standard Oil Company to reduce production so as to avoid continued over-production during these troubled times, having proved of little avail in bringing about the object desired, the Company has announced a new schedule of prices, reduced, of course, undoubtedly for the purpose of discouraging further drilling and as much as possible to check the excess output already available. In the San Joaquin Valley fields the reduction is uniform on oil ranging from 14 to 26.9 degrees gravity, amounting to 2½ cents on the barrel. The lighter grades are reduced from 5 to 10 cents. The gradings have been changed, doing away with the increased prices offered for the increase of a single degree in gravity, as was formerly the case. Gravity does not appear to count as much as it used to; there is too much oil on hand and refining processes have changed former conditions to a very material degree, but the higher gravities still bring much higher prices than the lower. Following is a list of the Standard's new prices:

SAN JOAQUIN VALLEY FIELDS

Gravity	Per bbl.
14 to 20.9	37½¢
21 to 26.9	40 ¢
27 to 30.9	45 ¢
31 and up	50 ¢

VENTURA COUNTY

21 to 26.9	50 ¢
27 to 30.9	60 ¢
31 and up	70 ¢

WHITTIER-FULLERTON FIELD

18 to 20.9	40 ¢
21 to 26.9	42½¢
27 to 30.9	52½¢
31 and up	60 ¢

* * * * *

What If Not Prosperity?

The past sixty days have witnessed nothing less than the dawning of a new era for the Pacific Coast.

The more salient evidences of this new era will bear mention in related form, instead of as disjointed items appearing in the daily papers, where their relation is not so clearly shown.

On August 15, less than sixty days ago, the great Panama Canal was quietly opened to the commerce of the world, and especially to American commerce, inasmuch as the European war has tied up to no little extent the commerce of European nations.

Already regular boats are making the San Francisco-New York trip on schedule time and the papers say they are doing a big carrying business. This new business is Item Number 1, and is foremost in importance.

Second comes the Exposition, now 95 per cent completed, more beautiful in conception than any similar event in history, of course more interesting to the public generally than anything else except the war; and bound to be an immense success.

As a result of the war, America must now become more than ever self-dependent. Of late every bulletin report of the Geological Survey shows new fields for American industry and endeavor in producing at home what has heretofore been imported. This is especially true as regards a large number of minerals, a goodly number of which are mined and several found exclusively in California. For instance, the Survey recently said:

"The dependence of American users of magnesite on the foreign supply is due for one thing to the location of the American deposits in California, at so great a distance from the Eastern markets that the freight rates have been prohibitive. The establishment of water transportation through the Panama Canal may be expected to alleviate this difficulty. With the cutting off of the Austro-Hungarian and possibly of the Grecian supplies there would seem to be every reason why the California industry should be materially advanced. Fortunately the deposits in that State are numerous, and many of them are fairly large and of high grade."

The number of other minerals that can be profitably produced in America, and especially in California, is very large indeed. This State produces more than three-fourths of the quicksilver output of the nation. California produces all the borax of the country. And so on, ad infinitum.

This has been a magnificent crop year and the West Coast has exceeded many previous record years in food and fruit outputs. In short, California has what the rest of the world needs and is getting more and more in position to fill the needs of other sections. Soon the war-torn countries will need to draw—in fact, are already drawing—on this Nation's food products. As their sup-

plies decrease they will replenish them by importing what America can spare.

This all means work for thousands of men forced out of employment by the war. It means the formation of new companies to develop and market. It means keeping money in American which heretofore has been very largely sent out in return for foreign-imported products, and getting foreign money in return for our goods. And where America ships foodstuffs, it must supply more for its own home demand.

Turning to Oil, the very over-production has its good side. It demonstrates to the world the absoluteness with which present and prospective consumers may rely upon a supply at low prices of the world's best fuel. It is something that is bound to attract manufacturing industries to this Coast, where business almost never stops because of weather conditions. If it is not the greatest prosperity in the history of the America that confronts the country today, what is it? The future is really magnificent.

* * * * *

Fly Stars and Stripes Now.

More than sixty vessels recently of foreign register, but owned by Americans, are now under the protection of Old Glory. The gross tonnage represented amounts to 233,781 tons. Fifty-four of the vessels formerly sailed under the British flag, four under the German and two under the Belgian flag.

* * * * *

How CAN the war last three years, when France alone is spending \$7,000,000 a day; when towns, cities and whole countryside are being destroyed beyond any power to recognize what they once were; when Germany announces publicly a loss of 300,000 men in killed and wounded; when the foodstuffs which Germany can command are limited to about a year; when the awful horror of the whole bloody business is being borne home to all the nations concerned by the growing death lists? How can the war last three years? It will be amazing if Peace does not come inside a year's time.

AN OIL PRODUCERS REVERIE-8- The Usual Result!!!



The Settling Tank

Presenting Brief Resumes of Informative Buletins, Addresses and Like Matter, Gleaned From the Most Reliable Sources.

Fuel Oil in Chile.—Another big market for California is seen in the conversion of the railroads of Chile from coal to oil consumers. About a month ago Vice-Consul Easterling, at Valparaiso, made the following report:

"The Chilean government has had under contemplation for some time the installation of oil-burning equipment on all the government railways of Chile.

"Before doing so, however, it has decided to turn over one entire division of the Longitudinal railway, which consists of about 125 miles, for exhaustive experiments. It has, I am informed, asked for no bids on this experimental work, the proposition having been worked up by individuals from the United States.

"As there is every reason to believe that the result of these experiments will result in the installation of oil-burning equipment on the entire system of government railways, it might be well for American manufacturers of this class of railroad material to get in touch with the officials having charge of this work, as it will undoubtedly be quite an extensive field for the sale of this class of material."

"Commercial Relations of the United States."—Another valuable publication is offered the business leaders of this country in the volume with above title, a book of 272 pages, just issued by the Bureau of Foreign and Domestic Commerce, Department of Commerce, containing revised figures showing in detail for the year 1912 (compared with previous year) the articles entering into the trade of the nations of the world, and the commercial transactions with this country, the volume should of great interest at this particular time.

Among the big facts concerning world trade and particularly America's business, the following are especially prominent: The world's leading importers are the United Kingdom, Germany, and the United States, in the order named, France being fourth and the Netherlands fifth. The United States and the United Kingdom are the world's largest exporters, followed by Germany, France, and the Netherlands. The United States furnishes about 20 per cent of the total imports into the United Kingdom, 15 per cent of those into Germany, 10 per cent into France, 14 per cent into Italy, 65 per cent into Canada, 53 per cent into Cuba, 50 per cent into Mexico, 15 per cent into Argentina, and 15 per cent into Brazil. Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 40 cents each.

"Production of Asphalt, Related Bitumens and Bituminous Rock in 1913" has just been issued by U. S. Geological Survey, written by Dr. David T. Day. The bulletin is brief but very comprehensive in scope, incorporating a number of valuable tables showing growth of production of "natural" asphalt from 1882 to present date, and production of "manufactured or oil asphalt" since 1802 to January 1, 1914. The increase in "oil asphalt" since 1902 is remarkable—from 20,826 short tons valued at \$303,249, to 436,586 tons valued at \$4,531,657, for 1913. The increased output and value of all classes of asphalt for 1913 over that of 1912 is shown by the following: Output 1912, 449,510 tons valued at \$4,620,731; 1913, output 529,190, \$5,282,370, increase in tonnage thus amounting to 79,680 tons, and increased value to \$661,639. A nice showing.

Less of the natural asphalt was produced in 1913 than in the previous year. An interesting item is the recent discovery of "a vein of asphalt of high quality and of large extent in the Philippine Islands, in the province of Leyte, Carrio of Campopoe, about ten miles from the shore. Analysis made in Europe shows that it is of a quality suitable for the highest uses." The report states also, in this connection, that asphalt is being used for roofing and paving in the Far East, "the supply coming at present largely from west coast of the United States."

The Utah asphalt business is treated as follows: "The production of hard asphalts, gilsonite and elaterite from Utah, fills a demand which is fairly steady; nevertheless the output in 1913 was slightly less than in 1912 and the average price per short ton received at the mines declined from \$19.47 in 1912 to \$17.01 in 1913"—which is "some price" at that.

Concerning California's output and general condition of the asphalt business the bulletin states: "California—An interesting development of the year 1913 in the production of all asphalt in California was the acquisition by the larger companies of a number of smaller asphalt refineries and the vigorous efforts of the larger companies to control the market, with the result that as many as eleven of the smaller companies disappeared from the market and others showed greatly increased activity and production, while the larger companies showed proportionate increase.

"The only natural asphaltic material produced in California in 1913 was the bituminized sandstone from the well-developed deposits near Santa Cruz in Santa Cruz County and from San Luis Obispo County. The low cost of production for local use allows this industry to persist in spite of the encroachments of oil asphalt, which reduced the output from 36,741 short tons in 1912 to 27,871 short tons in 1913. The average price declined from \$2.73 at the quarries in 1912 to \$2.51 in 1913." So we have the California asphalt situation at a glance. Incidentally, there is a considerable difference in returns for the various qualities at their various points of production. Imports, exports, respective positions of different countries as producers and other exceedingly valuable facts are detailed in respective tables. A very thorough and informative bulletin.

Gasoline From Natural Gas in 1913.—(U. S. G. S. Figures.) Returns from producers of casing head gasoline indicate that the production in 1913 amounted to 24,060,817 gallons valued at \$2,458,442, or an average price at the points of extraction, of 10.22 cents per gallon. The increase over 1912 production of 100 per cent, the 1912 output totalling only 12,081,179 gallons, valued at \$1,157,476. The 1912 output was about 80 per cent greater than that for 1911, which totalled 7,425,839 gallons valued at \$531,704. The growth of the industry, from these figures, needs no comment. Of the 1913 output of natural-gas gasoline West Virginia produced 7,662,493 gallons, valued at \$807,406; Oklahoma, 6,462,968 gallons, valued at \$405,186; Pennsylvania, 3,680,096 gallons, valued at 405,186; California, 3,460,747 gallons, valued at \$376,227; and Ohio, 2,072,687 gallons, valued at \$212,494. The balance of the 1913 output was produced by Illinois, Colorado, New York, Kentucky, and Kansas.

U. S. Natural Gas Production in 1913.—Beat all former years. The total yield is estimated by B. Hill, of the U. S. Geological Survey, at 581,898,239,000 cu. ft., valued at \$87,846,677, an average price of 15.10c per 1000 cu. ft., as compared with 562,203,452,000 cu. ft., valued at \$84,563,957, an average of 15.04c, in 1912, the increase being 19,794,787,000 cu. ft. in quantity, and \$3,282,720 in value. Of this total product, about 32 per cent was utilized for domestic purposes, or 184,885,662,000 cu. ft., valued at \$50,522,415, an average price of 27.33c per 1000 cu. ft., and 68 per cent was utilized for industrial purposes, or 397,012,577,000 cu. ft., valued at \$37,324,262, an average of 9.4c. This industrial consumption includes gas used for both manufacturing and producing power. West Virginia led with about half the total production, with Pennsylvania second.

"Oil and Gas in the Western Part of the Olympic Peninsula, Washington," is the title of Bulletin 581-B, of the U. S. Geological Survey, just published. The author found that "high grade paraffin oil issues from two seeps near the mouth of Hoh River, and at other localities oil saturated, sandy clay is exposed." In addition there is considerable gas escaping in different places, the gas "containing about 95 per cent methane". No commercial well has yet been brought in, though both small quantities of oil and gas have been met with. Three wells are drilling.

Associated Oil's semi-annual 1½ per cent dividend disbursement will be paid October 15. Amount disbursed, \$600,000. **Obispo gusher**, Midway, is still making 5000 barrels daily. **Premier Oil Co.**, Coaling, is running daylight shifts only. **Pyramid Oil Co.** annual meeting is scheduled for early date.

Chamber of Mines and Oil, Los Angeles, announces that there is small likelihood of the passage of any bill eliminating assessment work on mining claims at this session of Congress, as after investigation it was decided that such legislation would do more harm than good. This opinion was reached by Western Congressmen and to a considerable degree concurred in by the directors of the Chamber of Mines.

Oklahoma Oil Producers Agency has been formed, similar in many respects to the California Agency.

California's Mineral Output in 1913 was valued at \$100,791,369.

DIESEL-DOM

A California-Oil Consuming Engine for Hawaiian Service.—Oil under steam boilers has been disordered by a great Hawaiian plant, being superseded by the largest Diesel engine yet constructed in America. This engine was built by the Lyons-Atlas Company of Indianapolis. It is a 600-b. h.p. engine, 4 cylinders and directly connected to a turbine pump with a capacity of 16,000,000 gallons, "with a head of 200 feet." The engine uses plain California fuel oil at from 14 degrees to 18 degrees Be. One of the specifications for the engine provided for continuous operation 710 hours out of 720 hours monthly. The engine's trial run, in Indianapolis, on California oil, was successful in every respect.

The Chicago Pneumatic Tool Company is said to have recently placed on the market a "line" of low grade fuel oil engines which operate with equal success upon residuum, fuel oil, or plain crude. The engine is said to be extremely simple in design and operation. Its name is the "Little Giant" and experts say it is a "real hum-dinger."

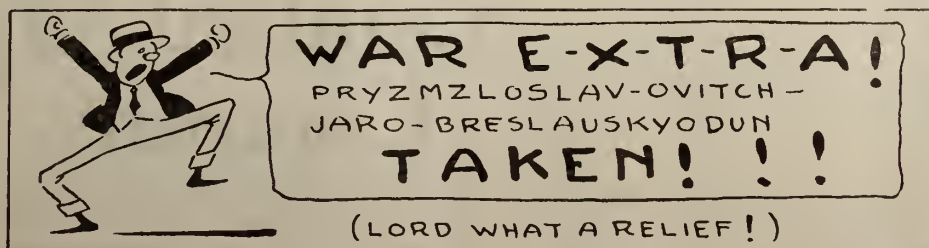
A Little Diesel.—The Scientific American announces the construction of a line Diesels of unusually small size, for use with dynamos, "ranging from 10 to 200 h.p." We quote:

"With the engine, which has 2 cylinders for the small sizes, is built an air compressor giving a pressure of 60 atmospheres for starting and for oil spray. On the engine is also an oil pump for cylinder supply. The dynamo is built alongside the engine on the same shaft. On the whole, the new Diesel groups will prove economical as well as easily handled."

Pipe Line Decision.

Pending a review and decision by the Supreme Court, the Associated Oil Company and Kern Trading and Oil Company have been granted an injunction by Judges Gilbert and Marrow of the U. S. Circuit Court and Judge Dooling of the U. S. District Court, restraining the State Railroad Commission and Attorney-General U. S. Webb from enforcing the "confiscatory" penalties imposed by the Common Carrier Acts for violation or non-compliance with their requirements. This stalls off the operation of the acts until the higher courts have reviewed the case. Needless to say, the decision is a great relief to the companies affected.

FOR SALE—Parkfield District—165 acres patented land; close to drilling operations; one water well on land contains some oil. This is an excellent oil prospect. For full information address Frank LaVine, 131½ North Broadway, Los Angeles.



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COALINGA

Guy H. Salisbury's Special Report

Best Handling of Water Problem:—The Coalinga Water Arbitration Association, formed by the Southern Pacific Company to handle the water problem in this field, endorsed by all of the prominent oil men in this field, numbers among its members the following leading companies: California Oilfields, Ltd., Kern Trading and Oil Company, Standard Oil Company, Associated Oil Company, American Petroleum, Nevada Petroleum, Traders, Union, Claremont, Coalinga-Pacific, St. Paul Cons., and the Ward Oil Companies. The object of this association as set forth in its articles of agreement, was to be the relief of the water problem, and the association has been eminently successful thus far, especially as it has received the active co-operation of Water Commissioner Kirwin. The association arbitrates all of its own difficulties, and as each case is presented to the members it receives the consideration of men who have had years of varied experience in overcoming the water problem, so that the net results have been gratifying indeed. To obtain these ends each company has put into the association such an amount of its acreage as it deemed best, the Southern Pacific (K. T. O.) having the largest acreage in the association. As the money to carry on the work of the association is raised by assessment on both acreage and production a most equitable basis of payment for benefit is secured. There have been two assessments thus far. In raising \$1,000 the assessment amounts to 4½ cents per acre and 65 cents for each 1,000 barrels of oil—a most reasonable charge. Each time an assessment is levied the fund derived is exhausted before a new assessment is voted. When any member of the association has discovered any water trouble in any well upon his property, he calls the attention of the officers of the association to the conditions, and receives the benefit of the combined judgment of the members. As a result the East Side field is today in very good condition with the exception only of Section 22, 19-15, where no systematized effort has thus far been made to overcome the water. And in the West Side field the improved conditions are very noticeable of late, as twenty wells in poor condition have been doctored by the association and good results secured in all. Further word is unnecessary to show the value of this system. The U. S. Geological Survey has recently had a representative visit the field to investigate the work done and he spoke very highly of it, saying that the water conditions seemed to be better understood and better handled here than in most sections he had visited. The majority of the big companies, it is to be noted, are using the Perkins cementing process in all their wells. This method is the one in which the cement is forced up around the outside of the water string, completely protecting the pipe from the action of the chemicals in the water.

Agency Shut Down Orders were in full accordance with the desire of Agency members in Coalinga, as is shown by the fact that **thirty-six** companies have restrict drilling and producing operations and **twelve** companies have

shut down completely. The Agency is taking 50 per cent of the average run from the companies still producing while the companies shut down are drawing 50 per cent of their average production from their storage credit. The actual curtailment amounts to 55 per cent of the Agency production, as shown by the oil runs for the past six months for comparison. Every company has curtailed its production from 20 per cent to 50 per cent, the output over 50 per cent going into storage, with which the companies seem well supplied and which they will fill before shutting off anything over 50 per cent of their normal output. The steel storage capacity of the various larger Agency companies in this field is as follows: American Petroleum Co., 230,000 barrels; Traders Oil, 120,000 bbls.; British Consolidated, 36,000 bbls.; Homestead Development, 36,000 bbls.; Homestake Oil, 32,000 bbls., and other companies lesser amounts. No change is looked for for the next two months at least. A noteworthy fact about present conditions in this field is that not more than ten per cent of new wells have been drilled in so far this year as against 1913, and yet the wells have held up the production of the field remarkably well. Some of the engineers of the big companies estimated that they should do, at least, 20 per cent development each year, to hold the production normal. The life of the Coalinga wells is now estimated to be considerable longer than in any other oil field in the State.

The Men Who Went to Burmah.—Of the drillers who went to Burmah, India, in 1911 to work for the Burmah Oil Co., news is constantly filtering home through various parties returning or hearing from the distant ones. Chas. D. McGee has signed up with the company until next year; his wife has returned to this country in very good health. During the last year many American women, wives of drillers and superintendents, and even their children, have gone to the upper Irriwaddi field. Many of the drillers have contracted for two and three year periods in the hot land. Most of them are now from the eastern fields, fewer from California than formerly. Phil Kaufman, well known in Coalinga, has signed for two years further employment. Basal White, who left Coalinga in November 1911, is reported on his way home, "with money." Mr. Jacobs, Burmah Oil's field superintendent, will return to live in Pennsylvania on the completion of his term. Last year he took a lot of California drillers and tools with him to Burmah. Mr. Reep is in charge of the Chauk field, Upper Burmah, for Burmah Oil. About fifty-five men left the Coalinga fields in 1911 and 1912 for Burmah. They are all reported in good health and making "good" money, receiving raises of \$20 per month on renewing their contracts with their employers. They are thus fortunately situated as compared with many California drillers at the present time.

Gone to Swell the Roll of Death?—Five Coalinga men, all employed by the California Oilfields, Ltd., the subsidiary of the Shell Company of California, Englishmen all, were unable longer to withstand the call of war, and all of them left the first week in October for their native land. They all secured a three-months' leave of absence from the Company. It is not improbable theirs will be a permanent absence. The men who went were: E. A. (O'Brien) Collins, Del Hathaway, A. P. (Pat) Campaign, Fred Brumwin and F. Sherwood. Several of them have had some military experience in the past. They all leave many friends in the field who will be anxious to know their fate.

September's Big Electric Storm.—A terrific electrical storm occurred the last week of September, causing much

damage. The Shell Co. lost W. K. derrick and outfit of well No. 31 by flames, following a lightning bolt; loss \$3,500. Rig will be rebuilt. The well has a daily average output of 75 bbls. The storm lasted four and one-half hours. A power pole of the San Joaquin Light & Power Co., located on section 27, 19-15, was struck and demolished. The derrick of Standard Oil's Sontag No. 4, on 36, 18-15, was split and twisted by a bolt, but not fired. A derrick on the Sauer Dongh, sec. 22, 19-15, was struck fired and destroyed at a loss of \$2,500. The rig irons were melted by the terrific heat of the flash. The K. T. O. Co.'s electric power system on sect. 35, 19-15, was put out of commission for the day. The General Petroleum suffered the loss of a pole on 2, 19-15, and the substation of the S. J. L. & P. Co., south of Huron, known as "Henrietta" station, was demolished, putting a good part of the town of Coalinga in the dark until midnight. The storm was the worst in years and put a dead stop to business of all kinds.

Concentrates.—Turner Oil Co. has landed landed the 15½-inch casing in its No. 12 well on 2-20-15, at 1285 feet. No. 13 is now drilling. In No. 10 a cementing job has been successfully completed at 3535 feet—8¼-inch casing used. Wells 8 and 11 are closed down just above the oil sand. The gasoline plant is running to capacity. **Coalinga Mohawk Oil Co.**, on 12, 20-15, has a production of 1,000 bbls. daily from No. 6. No. 1 is making 570 bbls. of 33 gravity daily. **Associated Oil Co.** is trying out a jack system of pumping. Three wells are successfully "hooked up" and more will be. **Inca Oil Co.**'s pumping jack system is working very successfully, running fifteen wells the past sixty days. The balance of the wells will be connected very soon.

Devil's Den District.—Marathon Oil Co., N. E. ¼ of sec. 13, 28-15, is about to resume after two months shut down at 2,100 feet. The well will be put down to 3,000 feet unless oil is obtained before reaching that depth. **Lacey Oil Co.**, sec. 34, 25-18, is still shut down; depth, 2,675 feet. There were several showings of considerable promise, previous to the close down, which is for an indefinite period.

Parkfield District.—Monterey Oil Co., sec. 8, 23-14, is about to resume operations. Has been repairing old tools and assembling new tools and supplies. The company is reported to have secured backing from "Atascadero" Lewis, a successful St. Louis (Mo.), promoter. (Note: The Derrick's usual budget of Parkfield news had not yet reached us up to October 6.)

Lord Cawdray's Son War Victim.—The death of Lieut. Harold Pearson, son of Lord Cawdray, the principal owner of S. Pearson's & Sons, Ltd., and affiliated interests, notably the Mexican Eagle Oil Co., owners of the great Potrero del Llano gusher in Mexico, was announced October 5, by United Press. Lieut. Pearson was captured by the Germans during the battle of the Marne, together with his orderly. Both were placed in an enclosure with other prisoners. They attempted an escape when the German guard appeared unobservant. The guard, however, sighted them, fired, and young Pearson fell dead, orderly escaped. Such are the glories of war!

Final payment on Turner Oil has been made by the Dutch-Shell Combine to the owners by turning over to the "Anglo and London-Paris National Bank" the purchase price, amounting to \$1,500,000. Turner was chiefly owned by the Pausons and Fleishhakers of this city. There were 500,000 one-dollar shares outstanding. As the property was sold for \$3 a share, there is a handsome

profit in the deal for the owners. In addition to this the company has some funds on hand, which will be distributed. Apparently there is money in oil if you go about it in the proper manner.

Santa Barbara County's Proposed Bonds for Good Roads.—Work has begun on circulating a petition favoring the proposed bond issues by San Barbara County, the petition calling for an election to decide same. All the money derived will be for road construction and betterments throughout the county.

An important matter to California will be the meeting of the Counties' Convention of the California Development Board, to be held in Santa Rosa, October 16, 17 and 18. The programme has for its main theme; "Legislative Measures Now Under Consideration in California." The meeting scheduled will be a notable one and will undoubtedly have considerable influence on politics November 3.

"The Stock Market" is doing practically nothing.

PROFESSIONAL DIRECTORY

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IN FOREIGN FIELDS

NIPPON OIL COMPANY'S BIG GUSHER IN THE AKITA FIELD

The gusher that was brought in by Nippon Oil Co. in Akita field is known simply as "Rotary No. 5." The Company writes us that the drilling of the well was "Started on May 3, with 14-inch bit, and cemented off with 10-inch string. At 952 feet a cavy stuff was encountered which was eased off with 8-inch string and drilling kept on. On having drilled through a hard shell and when the hole got down to 1368 feet, on the midnight of May 26, oil suddenly started to flow in a solid stream, at

such a rate that, over-running the big sump, it rushed down in a torrent through a narrow canyon, and spread over a large tract of rice field in the valley below, forming a lake of oil. The flow as measured the next day, in gauging tank, was 9 barrels per minute or 12,960 barrels per day. The well was put under perfect control and the flow is now being reduced to a couple of thousand barrels, pending the completion of an 8-inch pipe line. Mr. George H. Cann of California National Supply Co., of your city, was present in the field just at the time of the excitement."



NIPPON OIL'S ROTARY-DRILLED WELL -- AND ONE OF THE RESULTS, A LAKE OF OIL

FOREIGN NOTES

The reports of the oil supplies, especially gasoline, available to Germans, differ most radically, some statements saying that gasoline or motor spirit is ample others that even worn out horses are being impressed into service. The truth is, probably, that supplies may be low in some sections, and sufficient in others. The Austrians are reported in possession of their oilfields and are doubtless supplying Germany with considerable of their product. Whether any American oil is reaching Germany through neutral countries is a subject up before the State Department, and, better not discussed at this time, though it seems next to impossible.

ENGLAND PURCHASING LARGE QUANTITIES OF AMERICAN OIL

A late dispatch from New York States that England is purchasing American oil extensively, and, according to one authority, is not concentrating American orders with any individual interest. It is stated that these orders are being filled by the Standard Oil Company, the Texas Company, the Gulf Refining Company, the Magnolia Pipe Line Company, and the Union Petroleum Company. How much of this oil is being purchased for war purposes cannot be determined, but it is assumed that it amounts to a considerable percentage of the total contracts.

REVIEW AND COMMENT

Reorganization

The Oil Industry has been virtually under reorganization these past few months of war, and it cannot be said that the reorganization is not beneficial and very desirable, hard as it may have been on the industry at the time of operation. Economy has come — drastic economy in some cases, but far better than the old go-ahead-regardless-of-expense spirit; the never-mind-conditions spirit, too, has run hard on the shoals of bankruptcy and thus two very desirable results have come through war's trade devastation. Economy and curtailment have long been desirable, but were not heeded or practiced to anywhere near their present degree until necessity forced.

Investments

In the field of investment the Dutch-Shell interests have amazed to no little degree by their persistent expenditures, which some sources state approximate a million dollars per month, all in purchases, betterments and new development work for the future days when the California fields will furnish, probably, their main big returns. This new money is a big aid to the allied industries at present, being spread over a multitude of departmental expenditures: pipe line construction, tank construction and the building of the new refinery at Martinez, just ordered, together with oil land purchases, supplies and so on. The pipe line and refinery cost is estimated at \$7,000,000, most of which is spent in this State. It comes in very nicely at this time.

Dividends Big

Among the big recent disbursements of particular interest to the trade are the big Standard dividend of 1 1/4 million dollars, the Associated's \$600,000, semi-annual 1 1/2 per cent distribution, the Producers Transportation 1 1/4 per cent payment, the Union Oil payment of \$450,000 on its 6 per cent notes maturing November 1, the Agency's excess payment of \$200,000, and the Amalgamated's regular pay checks. As was quite generally expected, the General Petroleum 6 per cent bonds maturing November 1 were not met; which means that, as far as is apparent from published figures, \$22,450,000 bonds outstanding do not pay their holders a cent. The May coupons were not paid either. Hence the reorganization mentioned elsewhere in this publication.

Gushers

In the gusher field the death of Lakeview No. 2 is the big topic of the day and the continuation of the Mioecne gusher's production of 5,000 barrels per day, unaffected either up or down by the Lakeview's demise, is looked upon as more or less unusual.

Legislation

Water-control legislation is in the atmosphere again and is being investigated and drafted by the State Mineralogist, while more anti-Standard Oil legal doses are being mooted by the legal healers who seek to keep the Standard from meeting the prices of underselling competitors.

Emergency Shipping Law

President Wilson's emergency shipping law is meeting with enthusiastic reception by American shipowners, especially tankship operators, who are getting under the protection of the Stars and Stripes as rapidly as possible. In six weeks past, 20 tankers that flew foreign flags have changed to the American, flying the flag of their owners.

Market Expansion Certainties

Increased Consumption may be looked for from the rapid transformation of an increasingly large number of coal burners to oil burners, construction of new oil fired ships and new motor ships, all of which is going on at an unusual rate considering the war. But Europe's coal shortage is to some extent forcing the change. About fifteen or twenty motor ships, on four or five newly inaugurated service lines from northern and southern Europe alike, via Panama Canal, will shortly be calling regularly at San Francisco and Los Angeles. Big days are coming, already heralded by the Siam and the Swedish Diesel vessel just in port, for the Diesel-propelled ship, just as prognosticated in these pages four years ago. One line alone, the Asiatic S. S. Co., will soon have eight of these big Diesels on Pacific duty. This is just ONE line; and four or five plan similar service.

Government's Land Policy — Other Government Activities

The Government's actual policy in regard to public oil land operators is not yet definitely settled in detail, though Congress did pass the legislation designed to correct existing evils and serve both the government and the public; still much is left to the Secretary of the Interior's discretion, to handle as seems just to him. Mr. Lane has been here and has heard the expressions of operators both here and in Los Angeles and has had an excellent opportunity to ascertain the views of operators most affected by his decisions. As he called the meetings with this end in view, the ideas of the various operators will doubtless have much weight in formulating the Government's final policy as to the disposition of the public oil lands. An agricultural claimant to oil land in Maricopa, Daniel Harris, has been awarded his land by the land office of Los Angeles, but the oil rights are reserved to the Government — showing that our "Uncle" is very much awakened to the value of his own oil to himself. This land adjoins the Lakeview gusher property. Everyone who has followed the case at all is familiar with the details. *** The Government has selected Mare Island as the main fuel supply station of the Pacific Coast. Another interesting point is that the latest and greatest battleship — "Nevada" — a marvel of destroying power, will be exclusively oil-fired. She will be the most powerful and deadly battleship ever constructed by any nation.

Other Matters

Of general interest are the following developments as garnered from various sources:

The Geological Survey has just printed a large colored wall map of the United States, showing petroleum resources, natural gas deposits, trunk oil pipe lines, known and prospective oil areas and a compendium of valuable information, the map being on sale for \$1.00 per copy.

The "Smudge Oil Industry," that is the sale of oil for heating orchards against the frosts, it is estimated, will show a decided growth over last year. — Appraisal of Agency properties is proceeding steadily by an expert appraisement committee, now in the north Midway field, as the first step towards a possible merger of all the Agency companies into a second Associated Oil Co.—The small asphalt companies not absorbed or forced out of business this past year by competition with their bigger competitors, are reported doing a thriving trade, State and National. The road building era is on us and requiring immensely more asphalt than ever before.—Producers Transportation Company has been installing

numerous improvements, among which are five big pumps, capacity 30,000 barrels daily, at different stations beginning with Junction and ending at Santa Marguerita. The Company is also constructing a 750,000-barrel concrete reservoir at San Luis Obispo, and ten new steel tanks of 55,000 barrels capacity each, also at San Luis. —Union Oil Company has sold 66,000 barrels of gasoline to an English syndicate at \$300,000, f. o. b. California, transportation via Panama Canal. Union's banner month in its entire history was this last September, when its collections totalled in excess of \$1,900,000. The war does not hurt the Union.—The American Mining Congress' 17th annual session will be held in Phoenix, Ariz., December 7 to 11, and many oil men will attend, including Col. "Tim" Spellacy, Ralph Arnold and Fred V. Gordon.

Tremendous Area of Public Lands Classified and Settled.

In the annual report of the Secretary of the Interior, covering a period of sixteen months ending June 30, 1914, some amazing facts are disclosed regarding the settlement of public lands. In brief, this report shows that in the sixteen months under discussion, intending settlers made entry on 19,426,603 acres of public lands—an aggregate area equal to that of the states of Connecticut, Massachusetts, New Hampshire and New Jersey! And in addition to this, an area of 15 1-3 million acres, equal to West Virginia's area, "has been restored and thrown open to settlement or purchase." These combined areas are, roughly, **equal to that of England and Wales, combined**, which have a population of 36,000,000 people. The area settled during the sixteen months under review is a fraction of a square mile less than 33,542 square miles. The area of Scotland is 30,463 square miles; Denmark, 15,000 square miles; Norway 124,000; Sweden, 172,000 square miles. In other words, for little more than the mere living on it, the United States in the brief time referred to, sold to settlers an area greater than both Scotland and Ireland, twice as great as Denmark, more than half as great as England and Wales; and opened for further settlement an acreage almost equal to that settled in the sixteen months between March 4, 1913, and June 30, 1914.

When the present Administration assumed office, the Government held title to nearly 500 million acres of land, of which nearly 200 million acres had been more or less permanently withdrawn from purchase as national forests, parks, monuments, etc., and about 70 million acres had been temporarily withdrawn for classification—that is, for determination whether they should be sold under the coal-land law or other mineral laws, under the timber and stone act, under the desert-land act, or as plain homesteads—leaving 230 million acres open to purchase.

As reconnaissance exploration has revealed the possible existence of deposits of coal, phosphate, or oil and gas, or of water-power sites not previously known, new areas have been temporarily withdrawn until they could be studied in detail; and as detailed surveys have shown just what 40-acre tracts of these newly withdrawn lands contain workable deposits of coal, phosphate, or oil and gas, the land has been classified as coal land, phosphate land, or oil and gas land and has been restored for sale, except that containing phosphate, oil and gas, or certain salts. Lands found to be valuable as water-power sites have been made available for the development of power but not for other purposes.

Another kind of classification, which has not involved

preliminary withdrawals, has been that of certain dry lands which can not be irrigated but which offer to the settler an opportunity for making a living by "dry farming." These lands, when so classified or "designated," may be entered in tracts of 320 acres as enlarged homesteads.

Altogether, since March 4, 1913, in twelve public-land States, detailed surveys, by 40-acre tracts, have led to the classification and restoration of 15,392,482 acres; 33,453,056 have been determined to be suitable for dry farming, and designated or listed, for settlement, as enlarged homesteads in 320-acre tracts; and entries have been made on 19,426,603 acres by purchasers. In the same States, during the same period, only 892,783 acres have been withdrawn from entry.

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EASTERN PIPE LINES RESUME SHIPMENTS AND TAKE FULL PRODUCTION

With the refineries again in operation affording the movement of oil, corresponding improvements were noticed throughout the oil industry. The pipe lines again began the shipments of oil. In several cases, they first called on some of their overstocked storage points, but in a mutual endeavor to relieve conditions at the earliest possible moment went to the aid of the producer. Beginning with the first of September the Seep Agency began taking one-third of all current production. On September 14th this was increased to two-thirds of all current production. On September 24th, the announcement was made that not only would all current production be taken, but accumulated credit balances as well. This left the Eastern fields in normal condition, the status of affairs, as far as an outlet is concerned, being about the same as before the war commenced.—"Oildom", October Number.

Statement of the Ownership, Management, Circulation, Etc., Required by the Act of August 24, 1912, of California Derrick, published monthly at San Francisco, California, for October 1, 1914.

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Known Bondholders, mortgagees, and other security holders, None.

(Signed) Charles Carroll Wright.

Sworn to and subscribed before me this First day of October, 1914.

Edith W. Burnham,

Notary Public in and for the City and County of San Francisco, State of California. My Commission expires January 30, 1918.

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Taken at the Exposition Grounds, November 8th.



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More than two hundred huge shipments have already reached San Francisco. More than eighty thousand exhibits have been accepted by the Exposition management.

Ships and freight cars are unloading in a constant stream and the various exhibits are being delivered to their respective buildings with the utmost despatch and efficiency.

The Exposition buildings are in the vicinity of 98 per cent completed, so there is no delay in housing every consignment of exhibits as it arrives, each in its permanent position. The shipments thus far received have been of the most costly nature, the latest designs of machinery, the rarest objects of art, the most beautiful flowers the world's most famous growers can produce, have been arriving from the far corners of the earth.

Consignments are on the ground from England, Holland, Germany, France, Luxemburg, Rotterdam and a great many other foreign countries and cities, with shipload upon shipload en route from Japan, China and other Antipodean nations. Japan alone has already sent more than one thousand tons of rare and costly exhibits of its manufacture.

No foreign nation has withdrawn from its participation in the Exposition as a result of the war or for any other reason, but on the contrary, since the war broke out several nations have greatly increased their appropriations for exhibits, while space in certain of the buildings is in many cases unavailable for the late ones who may wish to display, having been over-subscribed three and four times.

Construction of national pavilions is advancing with extreme rapidity, ceremonies attending the dedication and completion of the various palaces being so common that they are almost of every-day occurrence.

Naturally the public is keyed up to a tremendous pitch of enthusiasm and interest increases as the time approaches for the formal opening of the Exposition gates, with all its attendant ceremonies and rejoicings. As almost every Sunday witnesses some especial event, such as the recent daring aviation displays, the realization that the Exposition's opening is right on top of us, so to speak, is being borne home to all, and welcome received, because the event is of such colossal importance to entire Western America — and for that matter to every participating country, individual and firm.

The intensity of enthusiasm is shown by the great attendance on every occasion that a crowd might be expected. There were over 50,000 paid admissions to the grounds on Sunday, the 8th of this month, and in excess of 294,000 visitors during October. While October was the record month, November will doubtless eclipse it and each succeeding month be as large in spite of the rains now due. So many events of surpassing interest are scheduled for the months to come that an enormous attendance is inevitable, especially as there are more

than 300 conventions to meet here within the Exposition's life time.

Oil will be well represented by Government and company exhibits. The Derrick hopes to publish a complete description of the various oil displays in an early number and give various other interesting articles on especially interesting events in future issues. One certainty about the oil exhibit is that the United States Government and the Standard Oil Company will have magnificent displays.

FOREIGN FIELDS

Mexico

The "Los Naranjos No. 1 Well" of the Mexican Eagle Oil Co., (The Pearsons), has proven itself good for 50,000 barrels per day. Upon the breaking of its gate valve recently, it flowed fully this amount and some reports say more. The well was capped October 20. "Los Naranjos A" is reckoned a 30,000 barrel producer. The Company thus has 80,000 barrels daily in the two wells.

Tampico Oil is now offered at 20 cents per barrel, "with no buyers."

Union Oil Co. Lost No Oil when the chartered tanker Elsinore went down. This item is to correct error in the last issue of the Derrick.

Mexican Petroleum, it is reported, will build a \$1,000,000 refinery on Staten Island, New York, to build up a big Eastern refining trade. Its intention of doing a big Southern trade is evidenced by its purchase of a waterfront terminal near New Orleans on which it is building a refinery and tank farm at a cost estimated from a quarter to a half a million dollars. The company has been so ably financed in the past that it is in no need of additional funds.

German Chemists Synthesizing Oils

With importing from the United States cut off by the ever watchful English cruisers, and the Russians in practical control of Galicia, Germany has been hard put for gasoline and oils, yet she has managed to "get by," and her automobile trucks still carry soldiers and ammunition and supplies to the front. The question then is, how does Germany do it?

The answer is, "brains." It is quite generally believed that Germany's wonderful chemists have been able to synthesize a cheap alcohol to use in place of gasoline and to concoct a suitable grade of gasoline from coal tar products. Although these fuels would not be considered eminently suitable, nevertheless in the exigencies of war they are proving suitable.—Daily Commercial News San Francisco.

California Derrick

The Oil Authority of the Pacific Coast

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

First Three-Quarters of 1914.

A large increase in production and surplus are shown by Standard Oil's figures covering the first nine months of the year as compared with the same period for 1913. The Midway-Sunset produced within 161,000 barrels of its entire 1913 output. The grand total of the state for the three-quarters is in excess of 79 million barrels, more oil than was produced in all of 1910 by several million barrels and an average monthly output of 8,811,616 barrels. Consumption, or rather, shipments, totalled almost 74 million barrels, leaving an over production of 5,400,000 odd barrels of oil. Shipments the third quarter fell off approximately two and a half million barrels from the second quarter's record, due to the war—nothing else.

But in spite of the war, and in spite of the alleged other hard conditions, the consumption this first nine months is greater than was the production of the same period in 1913: Something worthy of consideration, especially when it is further considered that this is the greatest nine-months consumption in the history of the California Oil Industry. On the whole the outlook is good despite what all depressed and pessimistically inclined may say or think. The figures show it. That oil has not been more affected shows also that the general industrial conditions are NOT as represented by our dyed-in-the-wool, black reactionary, billings-gate dailies, such as published by those self-chosen leaders, Hearst, de Young and Otis.

* * * * *

Oil legislation, a la Sutherland oil bill, is coming our way again. Let us all pray the powers that be not to make their bills too drastic. One director of the Oil Producers Agency, one of the Executive Committee, told the editor of this journal that the only reason the Agency had endorsed the Sutherland bill last year was that they had been informed some sort of legislation positively would be passed, whereat they all got together and endorsed the bill least likely to do them harm. This was duly passed, but the governor vetoed it.—Now for the next one.

* * * * *

Oil cargoes may pass through the Panama Canal without the necessity for obtaining permission in advance.

Dr. Day Resigns From Geological Survey

After twenty-eight years in the service of the United States Geological Survey, and a lifetime spent in the oil business, Dr. David T. Day, Chief of Petroleum Dept., has resigned. The 1913 production report will be the last to bear his name; a name familiar to every oil producer in the country and to most oil men abroad. In the formal announcement by the Survey nothing was said of his personal popularity, but it is a fact that no one in the Survey service was more generally liked than Dr. Day, who made friends for the Survey every day in the year. Dr. Day will be succeeded by Mr. John D. Northrup, also well known for years of survey work. From now on Dr. Day engages in private practice; and may all success be his is the undoubted wish of every oil man in the country.

* * * * *

Helping the Belgians.

The manner in which the American People are responding to the Belgian relief appeal is nobility itself. The great sums of money that are being raised to feed the war-stricken homeless, and the shiploads of food that are on the way and to be sent as early as possible stand out as the world's greatest philanthropic work on occasions similar in a general way to those now prevailing. The Belgians are being helped to the utmost by a country that is itself suffering from the war, to quite an appreciable degree. This thought naturally brings to mind the sufferers here; they, too, need all possible aid. It is a splendid, a magnificent thing to send food and money to aid the stricken Belgians; but to bring these destitute people here, where there are already literally thousands of almost destitute persons looking for work; would this be kindness? Not to the Belgians, surely. And, if not to them, how much less to the unemployed here? Charity begins at home; or SHOULD. And if the great landowners who profess an anxiety to divide their holdings with the Belgians would only show the same willingness to divide the same holdings with the stricken Americans, what a tremendous load would be lifted off the officials and people of every community in this state. To which many will answer: "The people here wouldn't do it." People never yet have done anything without an opportunity. Why not give them an opportunity before bringing more destitute to divide the already glutted labor market?

* * * * *

Standard Oil of California MAY be adversely affected by the war, BUT, the regular quarterly dividend of \$2.50 per share will be disbursed December 15th, to holders of stock November 23.

* * * * *

Anyway, the Lakeview No. 2 wont help to swell the surplus.

* * * * *

On October 20 President Wilson signed the Alaska coal-land leasing bill opening the coal lands of Alaska. This will make available for Alaskans, the navy, and the Pacific Coast, the vast fuel resources of our northern possession, and will give great impetus to Alaska's development. This policy of giving the country what it needs is the dominant characteristic of the present administration.

* * * * *

A "red-letter" day in the history of the Nation will be November 16, on which day the New York money monopoly, which has existed since the Civil War, will be given into the hands of the People. The Regional Reserve Banks open their doors on the 16th. Enough said.

Panama Canal—Pacific Coast products are being delivered to the East and to Europe so rapidly at the present time that people are losing sight of the fact that last year there were grumblers who howled that "the Canal never would do the Pacific Coast any good: Foreign nations will get all the benefit!" What bosh it was! Exactly the same bosh the pessimists of Hearst type are spreading today. And still fools there are to believe them. Can you beat it?

* * * * *

Foreign army orders in the United States have now reached \$250,000,000. Even this sum, however, is paltry compared with the trade lost as a result of the war.

* * * * *

NAVAL

Ten Million Dollars Worth of Submarines is the order taken by the Fore River Shipbuilding Co., of Quincy, Massachusetts. For whom these are intended is not made public but one matter is certain, their construction will employ many men and when the amphibious vessels are completed there will be that much greater market for oil products. The United States Government has opened bids for six new torpedo boat destroyers, the Fore River Shipbuilding Company having been the lowest bidder on these, \$795,000 per destroyer. The vessels bid on will be the largest destroyers ever constructed for the United States Navy, tonnage 1110, with a much greater destroying power and additionally equipped with two anti-balloon or airship guns.

Speed, oil consumption, etc., not mentioned in the dispatch.

Known Naval Losses of the War to November 5 total 120 warships of various classes, damaged or destroyed entirely, according to official admissions by the various admiralities of the warring countries. A "United Press" dispatch distributes the losses as follows:—

GERMANY—Twelve cruisers, 3 converted gunboats, 20 torpedo boats, 3 submarines, 2 mine-layers and 2 surveying ships.

AUSTRIA—Three battleships, 4 cruisers, 11 torpedo boats, 1 submarine, 1 monitor, 2 mine-layers and 3 vessels whose class could not be learned.

GREAT BRITAIN—One battleship, 13 cruisers, 1 converted cruiser, 2 gunboats, 1 torpedo boat, 3 submarines, 2 mine-layers and 1 training ship.

RUSSIA—One battleship, 3 cruisers, 1 gunboat, 9 mine-layers and two vessels whose class could not be learned.

FRANCE—One gunboat and 1 torpedo boat.

TURKEY—One gunboat and 1 armored steamship.

JAPAN—One cruiser and 2 torpedo boats.

The vast majority of these boats are coal burners, of course, and such as are replaced will more than likely be oil fired. There will be a big boom in oil at the termination of the war, is the general opinion.

Exports of Petroleum Products From California In September

Total exports of all classes of oils from California in September were smaller than in August by 3,685,205 gallons, but the returns were larger by \$43,547. The total gallonage shipped amounted to 33,994,702 gallons for which \$1,130,039 was received. The September exports, compared with the July shipments, show how seriously the war is affecting this branch of the trade—a shrinkage of 12,189,157 gallons. The most noticeable features in the September shipments are the increase in illuminating exports—(from 9,212,959 gals. to 12,933,792 gals.)—and the drop in residuum and fuel oil exports from 25,924,583 gals. to 17,412,251 gals.

Following is our regular table showing California September exports in detail:

Kind of Oil	Gallons	Dollars
CRUDE		
San Francisco	None	.....
Southern California	2,231,000	41,250
ILLUMINATING		
San Francisco	12,932,268	599,001
Southern California	1,524	242
LUBRICATING AND PARAFFIN		
San Francisco	656,866	75,764
Southern California	392	97
NAPTHAS, GASOLINE, ETC.,		
San Francisco	320,440	50,818
Southern California	409,961	36,122
RESIDUUM, GAS OIL and FUEL OIL, ETC.,		
San Francisco	17,267,980	317,669
Southern California	174,271	9,076
TOTALS—		
San Francisco	31,177,554	1,043,252
Southern California	2,817,148	86,787
GRAND TOTAL	33,994,702	\$1,130,039

* * * * *

California Oil Fields' Production and Allied Statistics, September, 1914

Following is presented the statement showing production and usual other statistics for the month of September, with the August statement below for comparison in detail. With 6110 wells producing, it is very evident that the Oil Industry is far from the state of paralysis and decrepitude that it is represented to be in some publications.

FIELD—	New Rigs	WELLS—				Producing Per Day
		Drilling	Completed During Month	Abandoned During Month	Producing	
Kern River	1	3	..	..	1,399	18,195
McKittrick .....	..	2	..	..	270	10,332
Midway-Sunset	7	48	11	1	1,353	142,658
Lost Hills-Belridge	2	6	4	..	245	12,576
Coalinga .....	..	14	..	..	834	44,097
Lompoc and Santa Maria .....	..	12	1	1	234	10,935
Ventura County and Newhall	4	26	1	2	425	2,569
Los Angeles and Salt Lake .....	..	..	1	..	687	6,667
Whittier-Fullerton	6	89	7	..	556	41,727
Summerland .....	..	..	..	..	102	148
Watsonville .....	..	..	..	..	5	75
Total	20	200	25	4	6,110	289,979

Total crude oil stocks, September 30, 1914, 55,027,328 barrels.

Total shipments from fields, September, 1914, 6,860,910 barrels.

FIELD—	New Rigs	WELLS—				Producing Per Day
		Drilling	Completed During Month	Abandoned During Month	Producing	
Kern River	2	5	1	..	1,449	19,250
McKittrick	2	2	2	..	263	10,784
Midway-Sunset	10	54	21	..	1,422	147,777
Lost Hills-Belridge .....	..	8	3	..	243	13,009
Coalinga	2	19	2	..	871	45,286
Lompoc and Santa Maria	1	17	..	..	237	11,140
Ventura County and Newhall	1	28	1	..	425	2,735
Los Angeles and Salt Lake	1	1	1	..	686	7,057
Whittier-Fullerton	5	97	6	..	553	36,679
Summerland .....	..	..	..	..	102	148
Watsonville .....	..	..	..	..	5	75
Total	23	231	37	..	6,256	293,943

Total crude oil stocks, August 31, 1914, 53,188,857 barrels.

Total shipments from fields, August, 1914, 8,860,824 barrels.

GEOLOGICAL SURVEY

Austin and Delta, Colorado, are not believed of sufficient importance to warrant prospecting expenditures by M. R. Campbell, of the U. S. Geological Survey.

.. "Made in America" is the new watchword for the Nation.

The Settling Tank

Presenting Brief Resumes of Informative Bulletins, Addresses and Like Matter, Gleaned From the Most Reliable Sources.

SPLENDIDLY THOROUGH NEW OIL BULLETIN

The State mining Bureau's new oil bulletin, "Petroleum Industry of California" was completed and ready for the printer at the end of October, and will be published probably in time to distribute the first copies around the first of the year — possibly a little before that time. This bulletin is very thorough indeed. Its compilation has been of the most exact and painstaking nature. The viewpoint is the business idea, rather than any other. The work is not for those unfamiliar with business, however; it is intended to meet the needs of oil men and those otherwise especially interested in the State's oil resources, without being compiled exclusively for experts. The subjects treated comprise three distinct groups, being (1) Extent of California oil Deposits; (2) Cost of extraction of oil therefrom and (3) Marketing and financial conditions governing the oil industry.

Detailed Description.

Chapter 1 details: Financial Review of oil industry during 1913. Summary of Oil Resources of California. Ownership of proved oil land. Geology in relation to the Oil Industry. Operating costs, drilling and pumping. Marketing and control of California oil. Price of oil.

Chapter 2 details: Production capacity of oil lands. Underground movement of oil. Evaporation and loss of oil. Physical and chemical properties of California oil. Some commercial uses of oil.

Chapter 3 details: Pipe lines. Water transportation and exports. Shipments by rail from California. Reservoirs and tanks. Specification and costs. Refineries, gasoline from natural gas.

Chapter 4 details: Coalina field. Location, history of development and rate of production. Financial results during 1913. Geological summary. Directory of operating companies. Drilling methods and costs. Cementing. Total cost of producing oil and methods of computing land values. Hauling cost. Pumping methods and costs, by steam, gas and electricity. Life of wells. Water conditions.

The other fields are treated, generally, the same as the Coalina field.

Besides the book there will be a folio accompanying it, filled with maps, about 18x20 inches in size, of all the oil fields; several geological maps showing new geological work. Maps show pipe lines, wagon roads, wells drilled, completed and abandoned. Three complete working drawings of both standard and rotary rigs, and a working drawing of concrete lined reservoir with all specifications. (Re. Geological maps, it may be stated, assistance was volunteered the Mining Bureau gratis, by some of the best geologists on the Coast.)

In addition there are sixty diagrams in the book showing the production and general "behavior" of California properties. The volume will undoubtedly be judged the most valuable discussion of the California oil industry that has yet appeared. R. P. McLaughlin, assisted by C. A. Waring, is the author.

"Statements on Latin-American Trade Situation" is the title of a pamphlet just issued by the Department of Commerce, Washington, which emphasizes the fact that

the Latin-American countries are looking to the United States for the capital and market for their products which heretofore they have found in Europe. The pamphlet may be obtained from the Superintendent of Documents, Government Printing Office, Washington, for 5 cents.

LIBRARY OF PETROLEUM LITERATURE

The United States Bureau of Mines has begun the collection of a general library of petroleum literature, under the direction of W. A. Williams, chief petroleum technologist. The details of this work have been assigned to Dr. David T. Day, who has recently been transferred from the United States Geological Survey as petroleum technologist, and who will also assist in a thoroughly organized research into the chemistry of oils, which is being developed by the Bureau of Mines. The importance of such a library is so manifest that it is hoped all technologists will aid in the work by exchanging with the bureau all available books and maps on this subject.

Columbia University's Highway Engineering Lectures, for the 1911-1915 season, will be particularly valuable and interesting. The non-resident lecturers in the graduate course include a galaxy of the most eminent highway engineers of this country, such as John A. Bense, N. Y. State Engineer; Wm. H. Connell, Chief of Bureau of Highways and Street Cleaning, Philadelphia; W. W. Crosby, Chief Engineer Maryland Geological and Economic Survey; and a great number of others recognized throughout the nation for their famous achievements, including C. N. Forrest, Chief Chemist of the Barber Asphalt Paving Co. Further information will be gladly furnished by Professor A. H. Blanchard of the Highway Engineering College, Columbia University, New York. Professor Blanchard is a constant reader of the *Derrick* and furnishes the information of Columbia's Highway Engineering Course.

Interesting Texas Bulletins.

The University of Texas' Bureau of Economic Geology and Technology, has recently published several interesting bulletins dealing with the oil and gas resources of that State, among which the following may interest California operators: "The Fuels Used in Texas, 1914"; "Use of Producer Gas in Texas, 1911"; "Report on the Oil and Gas Fields of Wichita and Clay Counties, 1912"; "The Deep Boring at Spur" and "Map of East and Northeast Texas, Showing Location of Producing Oil Fields, Deposits of Iron Ore, Lignite, Etc."

The Fourth American Road Congress meets at Atlanta, Georgia, November 9 to 14. A record breaking attendance is promised, largely because of the unusually fine educational program. A National event in more than one sense of the term, several branches of the Government being represented. The U. S. Office of Public Roads will exhibit the splendid exhibition which has been especially prepared for the Exposition here. Many of the Nation's foremost highway engineers will deliver addresses.

Interesting Developments of Recent Date

Immense Steamers For New Coast Service

The Great Northern Pacific Steamship Company, a subsidiary of the Hill railroad interests, will inaugurate a new passenger service between Astoria, Oregon, and San Francisco, on two magnificent ships which will surpass in speed, comfort and accommodations any sea service yet known on the Pacific Coast, according to recently published interviews between the high officials of the railroad and representatives of the press. Two steamers are now under construction for this service. How much oil they will burn is not stated as yet, but the vessels are of great size and are calculated to make the trip in 26 hours, which is present train time, hence they will burn considerable fuel. Both steamers will accommodate 450 first class, 102 second class and 200 third class passengers and will maintain a speed of 23 knots, equivalent to 26 miles per hour, during the entire trip on the ocean. These new vessels are expected to go into commission about January 1, 1915, giving the Northern Pacific direct service to the Exposition gates.

* * * * *

S. P. Case Again Being Argued—On Nov. 11 the government's suit to recover the 46,000 acres of mineral oil lands from the Southern Pacific Company, on the basis of its having been unlawfully obtained, since it is mineral oil land, was again before the Court, this time in Fresno, U.

District Judge Bledsoe presiding. The S. P. was as usual, represented by Attorney Lewers, whose argument was that the statute of limitations debarred the government from recovery for one matter, and that, secondarily, there was no fraud in the issuance of patent as non-mineral, because at time of issuance "there was no understanding that the land contained mineral." The government will undoubtedly introduce evidence sufficient to completely refute these claims.

* * * * *

British Out of General Petroleum Co.

Very strong interest attaches to the return to this city of A. L. Weil, counsel for the General Petroleum Company, with the announcement of the entire withdrawal of Andrew Weir and Allied British interests from ownership or any financial domination of the General Petroleum Company, with the complete reorganization of that corporation. The announced program consists of the following moves: First, elimination of Andrew Weir, Western Ocean Syndicate, General Petroleum, Ltd., and all British interests. Second, formation of a new American company, headed by Col. Chas. Hayden, to absorb the entire properties of the present General Petroleum Co. Third, bonding new company to take over all bonds of old, par for par. Fourth, additional bonding to take over General Pipe Line Bonds, par for par. Preferred and common stock will be issued, details of amounts, earnings, and so on, yet to be determined. The result will be to give the present bondholders of General Petroleum voting control of the new company. The war eliminates the British and the reorganization may possibly be the last link in a chain of some of the most intricate and remarkable financing ever accomplished on a large scale in California—"some" financing.

* * * * *

Agency Price—Members of the Independent Agency received 39 cents per barrel for oil run from their respective properties in September. Deliveries totalled 1,250,000 barrels.

The Stock Market—The demand for oil shares continues next to nothing. Associated Oil hangs between 30-33 bid. For Caribon \$1.50 is asked. Ten cents is bid for Coalinga Central and 50 cents asked for Sovereign; these are the sale quotations on Nov. 9 and other days quotations are about the same. Monte Cristo is 60 cents asked, Union Oil \$48 asked, Palmer Union 2 cents asked, "S. F. and Me-Kittrick" \$10 asked, Republic 10 cents bid, United Oil 20 cents bid and Amalgamated firmer in proportion than any other listed stock at \$69 bid, \$70 asked. These quotations comprise all the recent stock offers on the San Francisco exchange.

* * * * *

Big New Company—B. B. Dudley, E. R. Dudley and David Dudley have incorporated the "B. B. and E. R. Dudley Petroleum Co." with a capital stock of \$2,000,000. The Dudleys made their big entrance into oil when "Martin & Dudley" brought in the Lost Hills field.

"**Lyman Stewart**" is the name of Union Oil's new 426-foot tanker, launched October 31, from the Union Iron Works ways, this city. Her capacity is 62,000 barrels and her speed 11 knots.

* * * * *

California's daily production of "casing-head" gasoline is now averaging about 28,000 gallons, the output of 17 operating plants.

* * * * *

Lyman C. Blakeslee, the well known Los Angeles oil journalist, formerly with the Oil Well Supply Company, and later the Williamsport Wire Rope Company, and connected with the California Oil Industry for the past fourteen years, passed away October 16. Mr. Blakeslee was very well known and left many friends to mourn his loss.

* * * * *

Fire Losses were suffered by both the Standard and Union Oil Companies during October. The Standard lost a 15,000-barrel tank and contents by explosion, believed to be due to spontaneous combustion, the money loss being around \$25,000; the Union lost one 55,000 barrel tank and about 6,000 barrels of oil, money loss not stated.

* * * * *

Palmer Union Oil Company has excellent showings in two of its wells now drilling, Nos. 10 and 14, and a bright outlook for a bigger production from the wells now making oil regularly. No. 10 is down 3695 feet with oil showings in slate formation, justifying the management's hopes and belief that light gravity oil will be found at same depth as in the Western Union Company's wells, which have a similar formation at somewhat greater depth, 3900 feet. No. 10 looks very encouraging indeed. No. 14 is a sure well, having passed through 80 feet of oil sand at 2800 feet. The well will, however, be carried about 300 feet deeper for richer sand, from which adjoining wells are producing. At present No. 1 is pumping more than at any time during past two years, with Nos. 2, 3, 4, and 11 making their usual output. From 4 and 11, a much larger yield is anticipated from work now being done on them. Finances are reported satisfactory. Shareholders, generally, paid their assessment in full and dropped very little stock, everything considered.

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Standard Oil Company

(California)

MISCELLANEOUS NOTES

Amalgamated Oil is producing and marketing 5000 barrels of oil per day. The Company is running 3 strings of tools and contemplates an increased output as result of three wells to be brought in inside of about ninety days. Dividends are expected to continue with no break.

Traders Oil is reported in excellent condition. Output is between 50,000 and 60,000 barrels monthly, most of the oil being sold. Company is doing no development work.

Midway Northern Oil Company is producing from 17,000 to 18,000 barrels per month; production being held in the ground. Receipts are estimated at \$10,000 per month.

National Pacific Oil Company is reported as having 1,500 barrels oil daily from its own well and its royalty from the Miocene production.

Olinda Land and Oil Company is running two strings of tools, having stopped work on four other strings, and expects to bring in No. 12 in a short time. The signs are that No. 12 will be a "good" well.

McAnders Oil Company, which advertised extensively in several oil papers about six months back, has gone into voluntary bankruptcy. Debt, \$5,190; assets, 1 rig, well equipment and 700 feet of hole in the ground. Company has been trying three years. "Goodnight!"

Midway Gasoline Company is building a refinery and compressor plant on the property of the N. A. Oil Cons. Co., Section 2, Midway field.

"Restoration of the American Merchant Marine" is the title of a brief compiled by the American Steamship Association, of 17 Battery Place, New York City. The booklet is a comparison of cost data for the building and operating of American and foreign ships, and shows "the legal and artificial difficulties under which the American

ship suffers in its effort to engage in over-seas or international trade." What this book shows is this: That the cost of construction, and likewise of operation of American ships is, in the majority of cases, **almost double** the same costs for foreign ships. The statement appears to be drawn up to show that if the so-called Seamen's bills are passed the same will greatly hurt trade in American ships other than that exported from or imported to the United States.

INTERESTING CONVERSION

SEATTLE, Nov. 7.—The Pacific Coast Steamship Company announces that \$30,000 will be spent in converting the steamer Dirigio from a coal to an oil burner here. The Dirigio is operating from Seward to westward points on the Alaskan peninsula and will arrive here Nov. 20.

Biggest Diesels in United States.

The central power plant of Burro Mountain Copper Company, Tyrone, New Mexico, is equipped with two 1250-horse-power Diesel engines of "Carels Freres" construction. Each engine will develop but 1000 h. p. because of the altitude, 6700 feet. These are the largest Diesels yet installed in the United States. Their successful operation is looked upon by leading engineers as opening the door to tremendous Diesel Engine installations in this country.

Standard's Loss By Fire—The rig of the Standard's Pioneer well in the new Kern River Field—the "front"—on section 27, known as No. 1, burned down on October 16, taking fire at about six p. m., cause unknown. A new rig has been constructed and the well is again making oil. This pioneer well has proved the new field all that was expected, having made from 200 to 225 barrels daily since it was brought in Aug. 18, until the fire.

Keeping Up With a Great Patriot



SHRAPNEL:

LITTLE SHOTS
THAT HIT
THE VAN OF PASSING EVENTS

Arizona has lost half its copper trade since the war broke out.

Secretary Lane and Land Commissioner Clay Tallman will hear arguments in the McCutcheon and Maricopa claims case about Nov. 16, argument for the McCutcheons to be made by Judge Curtis Lindley, the famous mining attorney.

Shell-Dutch have instituted oil shipments from Texas to the Orient via Panama Canal.

Irving C. Allen's efforts to get the oil counties of the State to make an appropriation for a suitable "counties display" of oil at the Exposition, have ended in failure, excepting in Fresno county, where an appropriation of \$5000 has been voted for the big event.

It is now presumed that shipments of American oil in American vessels, to neutral countries, not intended for any belligerent, can from this time proceed unhampered.

Standard Oil has commenced actual drilling in the Celestial land and if the Chinese fields prove up to anticipation, what a world of new wealth for both China and America, too!

Santa Maria Oilfields, Ltd., Well No. 1, on their Shaw Ranch property is down below 3100 feet with tremendous gas pressure.

The Rice Ranch Oil Co. has just completed another gasoline compression plant in the Santa Maria field. Cost of plant was \$35,000 and capacity 1,500,000 cubic feet daily.

Owing to the strike in the Russian oil fields it is believed the output of Russia for this year will be noticeably lower than for any year for some time, possibly 10 to 20 per cent lower than last year.

Paraffin and Medicinal Oil Market—U. S. Geological Survey says a market is open in this country, as a direct result of the war, for paraffin wax hitherto imported from Galicia. The home product is obtainable in the neighborhood of Soldiers Summit, Utah, and the home market open to it should be between nine and ten million dollars annually, to fill the demand for the foreign. Medicinal petroleum of home manufacture are also faced with a much larger market as certain Russian imports of this nature have been cut off.

H. H. Hart, the successful Berkeley oil producer, has, with J. H. Dearn, M. J. Lindsay and others, formed the Carree Oil Co., capital \$100,000.

C. H. Braden and associates have formed the Tiber-Pacific Oil Co., taking over the old Tiber Oil Co. property near San Luis Obispo, and operating same profitably. Tiber Pacific's capital is \$325,000.

West Virginians have organized the "Oil and Gas Producers Association of West Virginia," a manner of "Independent Agency" to protect their mutual interests and co-operate in every possible way for the betterment of same. A board of directors was elected and F. B. Enslow of Huntington chosen president. The "Petroleum Gazette," which gave full publicity to the meeting, declares the meeting brought together about eight hundred oil and

gas men. The new Association will undoubtedly wield a powerful influence in its own sphere.

Standard Oil of California has purchased outright the "National Supply" stations which have been stopping points for motorists to purchase Standard Oil Products. The Standard has placed its price for Red Crown gasoline at 12 1-2 cents per gallon. Other gasoline sells from 11 to 15 cents per gallon, at the will of the different firms. The Standard lowered its price to 12 1-2 cents to meet cuts made by independents.

California Midway has levied assessment No. 6, 2 1-2 cents per share. Company owes \$114,000, including \$60,000 bonds outstanding. While production remains about the same as at last January, the Company has gone into debt about \$10,000 since that time.

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Vol. VII.

San Francisco, December 12, 1914.

No. 4

1914=====1915

The Yearly Greeting.

THE DERRICK extends to every reader the wish of a pleasant Holiday Season and a prosperous 1915. We also thank all our readers for their courtesy and consideration in the past and trust our magazine may be of increasing value to subscribers and advertisers alike. Our watchword shall continue to be "service" to the utmost of our means.

* * * * *

1914 and 1915.

That this has been a hard year for the majority of California oil producing companies is no news to you readers. Having no desire to discuss past troubles save where there is a direct benefit in so doing, we will pass by the hardships of this gusher-producing, war-troubled year with the commonplace observation that if gushers don't continue to flow in one after the other in 1915, and that if production can be curtailed by law or agreement and if a few other minor matters like the decision of suits before the Supreme Court can be settled, 1915 may be a pretty good year. Otherwise about 6200 wells will continue in operation and about 107,000,000 barrels will be produced, with a probable (not necessarily large) increase in storage. Prices will not increase materially until necessity forces.

The early end of the great war would to a considerable degree aid the industry, opening the market to copper refiners again, and by increasing shipping from Europe via Canal, increase consumption somewhat. But there's no use being too sanguine and expecting war to end in the immediate future; it is far better to count on conditions as they are.

There is, however, another matter of strong interest to the oil producers; the probable increase in manufacturing which on this coast demands oil for fuel. In his recent message to Congress the President stated the business legislative program was complete for all practical purposes. The business world therefore knows exactly where it stands. Capital can be invested with security in legitimate enterprises. Many manufactured products previously purchased abroad are now impossible to obtain. These products must be manufactured here. Result, increased oil market. On the whole the outlook appears to The Derrick to be not a little brighter for 1915 than 1914

has been. One outlook is for more dividends from a number of companies which by care and economy have worked themselves free from debts and may possibly inaugurate disbursements at an early date. In fact, we have heard of several of such companies and any rise in demand for more oil, and consequently increased prices at the well, would undoubtedly start not a few companies paying; and dividends are what we are all waiting for.

* * * * *

Commendable Business

A spirit of consideration has been displayed by the directors of many hard-pressed oil companies this past year that gives the lie to the theory of the saying, "soulless corporation." It is an actual fact, well known to a great many shareholders, that personal efforts have been made by the officials in hundreds of cases to preserve the shareholder's interest in companies which have been forced to assess, by extending the limits of time for payment in accordance with the individual shareholder's ability to meet the assessment. Persons who expect dishonesty only in their dealings with others will say, "Tide 'em along so's to freeze 'em out later on." But this is not by any means the case, as some companies have undoubtedly made their last assessment and only extend the time to aid the shareholders who financed them to hold on so that their investment should not be lost.

In some cases exceptional ability in the matter of retrenching, and arranging for delays in payments of debts has made it possible to keep from assessing at a time when many shareholders would undoubtedly be compelled to relinquish their holdings. We feel it but just to call attention to these facts, which have nothing sensational about them to bring them into prominence.

The Next Number will contain many company reports for one thing, and a number of features of special interest. We refrain from mentioning the nature of the special articles for the obvious reason that other publications might try to ante-date us with stories about the same subjects, which are sufficiently interesting to cause any editor to try to "scoop" the "only and original."

THE 1913 BULLETIN OF PETROLEUM

The Derrick reproduces on this page what may well be considered as the crowning achievement of the statistical force of the Geological Survey's petroleum department—a compilation of the world's total production of petroleum since oil's official commercial birth in

the year 1857. This table we take from the 1913 report of the Geological Survey, but recently issued, and the most comprehensive in scope of any such report to date, being 355 pages of solid information invaluable to the trade and, in fact, to the entire world, for reasons too apparent to need mention.

PRODUCTION OF CRUDE PETROLEUM.

Compiled by ANNE B. COONS.

World's Production of Crude Petroleum in 1913 and in 1857-1913, by Countries, in Barrels and Metric Tons.*

Country.	Production, 1913.			Total production, 1857-1913.		
	Barrels.	Metric tons.	Percentage of total.	Barrels.	Metric tons.	Percentage of total.
United States . . .	248,446,230	33,126,164	65.12	3,069,694,605	409,292,614	59.16
Russia . . .	60,935,482	8,124,731	15.97	1,553,314,449	207,108,593	29.93
Mexico . . .	25,096,291	3,426,172	6.74	68,965,294	9,195,373	1.33
Roumania . . .	13,554,768	1,885,225	3.53	105,155,895	14,020,786	2.03
Dutch East Indies . . .	11,966,857	1,534,223	3.14	125,573,184	16,743,691	2.42
Greece . . .	7,818,130	1,087,286	2.05	126,840,251	16,912,033	2.44
India . . .	7,500,000	1,000,000	1.98	65,549,770	8,739,967	1.26
Japan . . .	1,942,000	258,934	.51	24,312,780	3,241,704	.47
Peru . . .	1,857,355	247,647	.49	12,113,264	1,615,102	.23
Germany . . .	995,764	132,769	.27	11,969,805	1,595,974	.23
Canada . . .	228,080	30,410	.06	23,278,805	3,103,841	.45
Italy . . .	50,334	7,000	.01	765,759	102,101	.02
Other countries . . .	517,616	69,015	.13	1,493,616	199,149	.03
Total . . .	381,508,916	50,929,576	100.00	5,189,027,477	691,870,330	100.00

Continued

World's Production of Crude Petroleum, 1857-1913, by Years and by Countries, in Barrels of 42 Gallons.

Year.	Roumania.	United States.	Italy.	Canada.	Russia.	Greece.	Japan.	Germany.	India.	Dutch East Indies.	Peru.	Mexico.	Other Countries.	Total.
1857 . . .	1,977													1,977
1858 . . .	3,560													3,560
1859 . . .	4,342	2,000												6,342
1860 . . .	8,542	500,000	36											508,578
1861 . . .	17,279	2,113,609	29											2,130,917
1862 . . .	23,198	3,056,690	29	11,775										3,091,692
1863 . . .	27,043	2,611,309	58	82,814	40,816									2,762,940
1864 . . .	33,433	2,616,109	72	64,586	66,542									2,703,780
1865 . . .	39,017	2,497,700	2,265	110,000	66,542									2,715,524
1866 . . .	42,534	3,597,700	992	175,000	83,052									3,899,278
1867 . . .	50,838	3,347,300	791	190,000	119,917									3,708,846
1868 . . .	55,369	3,646,117	367	200,000	88,327									3,990,180
1869 . . .	58,533	4,215,000	144	220,000	202,308									4,695,985
1870 . . .	83,765	5,260,745	86	250,000	204,618									5,799,214
1871 . . .	90,030	5,205,234	373	269,307	165,129									5,730,163
1872 . . .	91,251	6,293,194	331	308,100	184,391									6,877,267
1873 . . .	104,036	9,893,786	467	365,052	474,379									10,837,720
1874 . . .	103,177	10,926,945	604	168,807	583,751	149,837								11,933,121
1875 . . .	108,509	8,787,514	813	220,000	697,364	158,522	4,566							9,977,348
1876 . . .	111,314	9,132,669	2,891	312,000	1,320,528	164,157	7,708							11,051,267
1877 . . .	108,569	13,350,363	2,934	312,000	1,800,720	169,792	9,560							15,753,938
1878 . . .	169,300	15,396,868	4,329	312,000	2,400,960	175,420	17,884							18,416,761
1879 . . .	110,007	19,914,146	2,891	375,000	2,761,100	214,800	23,437							23,001,408
1880 . . .	114,321	26,286,123	2,035	350,000	3,001,200	229,120	25,497	9,310						31,992,797
1881 . . .	121,511	27,661,248	1,237	275,000	3,601,441	286,400	16,751	29,219						35,794,288
1882 . . .	136,610	30,349,897	1,316	275,000	4,537,815	330,076	15,549	58,025						30,255,479
1883 . . .	139,486	23,449,633	1,618	250,000	6,002,401	365,160	20,473	26,708						35,968,741
1884 . . .	210,667	24,218,438	2,855	250,000	10,804,577	408,120	27,923	46,161						36,764,730
1885 . . .	193,411	21,858,785	1,941	250,000	13,924,596	465,400	29,237	41,360						47,243,154
1886 . . .	168,606	28,064,841	1,575	594,061	18,006,407	305,884	37,916	73,664						52,164,597
1887 . . .	181,907	28,283,483	1,496	525,655	18,367,781	343,832	28,645	74,282						61,507,095
1888 . . .	218,576	27,612,025	1,251	695,203	23,048,787	466,537	37,436	84,784						76,632,838
1889 . . .	297,666	35,163,513	1,273	704,690	24,609,407	515,268	52,811	68,217	94,250					110,065
1890 . . .	382,227	45,823,572	2,998	795,030	28,691,218	659,012	51,420	108,296	118,065					190,131
1891 . . .	488,201	54,292,655	8,305	755,298	34,573,181	630,730	52,917	108,929	190,131					242,284
1892 . . .	593,175	50,514,657	18,321	779,753	35,774,504	646,220	68,901	101,404	242,284					600,000
1893 . . .	535,655	48,431,066	19,069	798,498	40,456,019	622,669	106,384	99,390	298,969					608,170
1894 . . .	507,255	49,444,516	20,552	829,104	36,375,428	949,146	174,744	122,564	327,218					608,170
1895 . . .	575,300	52,892,276	25,843	726,138	46,140,174	1,452,999	141,310	121,277	371,536					1,215,757
1896 . . .	543,448	60,960,361	18,149	726,822	47,220,633	2,443,080	197,082	145,061	429,979					1,427,132
1897 . . .	570,860	60,475,516	13,892	709,857	54,309,568	2,226,368	218,559	165,745	545,704					1,427,132
1898 . . .	776,238	55,464,233	14,489	758,391	61,609,357	2,376,108	265,389	183,427	542,110					2,964,035
1899 . . .	1,425,777	57,070,850	16,121	808,570	65,954,968	2,313,047	536,079	192,232	940,971					1,795,961
1900 . . .	1,525,335	63,605,329	12,102	788,872	75,779,417	2,346,505	866,814	358,297	1,078,264					2,253,355
1901 . . .	1,675,320	69,389,194	16,150	756,679	85,168,556	2,251,544	1,110,790	313,630	1,430,716					4,013,710
1902 . . .	2,069,935	88,766,916	18,933	530,624	80,540,044	1,142,159	1,193,038	353,674	1,617,363					2,430,465
1903 . . .	2,763,117	100,461,337	17,876	486,637	75,591,256	5,234,475	1,209,371	445,818	2,510,259					5,770,056
1904 . . .	3,599,026	117,080,960	25,476	552,575	78,536,655	5,947,383	1,419,473	637,431	3,385,468					6,508,485
1905 . . .	4,420,987	134,717,580	44,027	634,095	84,960,270	5,765,317	1,472,804	560,963	4,137,098					7,849,896
1906 . . .	6,378,184	126,493,936	53,577	569,753	58,897,311	5,467,967	1,710,768	578,610	4,015,803					8,180,657
1907 . . .	8,115,027	166,095,335	59,875	768,872	61,850,734	8,455,840	2,001,838	756,631	4,344,162					9,982,597
1908 . . .	8,252,157	176,521,355	59,966	527,987	62,158,447	12,612,295	2,070,145	1,009,278	5,047,038					10,283,357
1909 . . .	9,327,278	183,170,874	42,388	420,755	65,770,350	14,932,799	1,889,563	1,018,837	6,676,517					11,041,852
1910 . . .	9,723,806	209,557,248	50,830	315,895	70,336,574	12,673,688	1,930,661	1,032,522	6,137,990					11,030,620
1911 . . .	11,107,450	220,449,391	74,709	291,066	66,183,691	10,519,270	1,658,903	1,017,045	6,451,203					12,172,949
1912 . . .	12,976,232	232,935,044	53,778	243,336	68,019,208	8,835,174	1,671,405	1,031,050	7,116,672					10,845,624
1913 . . .	13,554,768	248,446,230	50,334	228,080	60,935,482	7,818,130	1,942,009	995,764	7,500,000					11,966,857
Total . . .	105,155,895	3,069,694,605	765,759	23,278,805	1,553,314,449	126,840,251	24,312,780	11,969,805	65,549,770	125,573,184	12,113,264	68,965,294	1,493,616	5,189,027,477

* Estimated.

* Includes 461,986 barrels from Trinidad in 1912 and 503,616 barrels in 1913.

It is impossible for The Derrick to review in detail so bulky a report as this, but a few salient points may be profitably touched upon, since the 1913 report is really the "last word" on World Oil and will continue to be such until the 1914 report is issued.

Nearly everything pertaining to the development of the Oil Industry is touched upon in the report. Production, prices, general conditions, stocks, statistics and methods of collecting same, with courteous acknowledgments, rank of producing States, production by fields, oil deliveries, relative position of oil producing nations, analysis of petroleum from various parts of the country, imports—everything bearing on crude oil production, transportation and consumption, is treated.

The following portions of the report appeal to us as of especial interest to the Oil Fraternity and too valuable to be condensed:

Production.—The study of the domestic production of petroleum yields a story of progressive maxima for the last seven years, until in 1913 the product reached 248,446,230 barrels, or 33,126,164 metric tons. The yield of 1912 was 222,935,044 barrels, or 29,724,673 metric tons.

Although the product of 1912 exceeded all previous records, the yield of 1913 surpassed it by the greatest gain in any year since 1910. In fact, the increase of 1913 over 1912—more than 25,000,000 barrels—was greater than the total production in any year until 1880, and the output of 1913 equaled the total production of the United States for the first twenty-five years of the industry. **The production of the United States in 1913 was greater than the world's production in 1906, seven years earlier.**

Prices.—It is obvious from these figures that the condition of prices for oil was the feature of second greatest interest in 1913. At the end of 1912 oil of Pennsylvania grade sold at \$2.00 a barrel. In January, 1913, the price began to rise rapidly, with increments of 5 or 10 cents at a time until it reached \$2.50 a barrel. Usually each advance caused a proportionate rise in price of other grades of oil in all parts of the country except California, where the price relations were not affected by Eastern conditions. . . . The higher prices of crude oil were felt in the prices of fuel oil, which increased generally—except in the California trade. A few railroads returned to the use of coal.

The advance in prices of fuel oil within the last few years caused the Secretary of the Navy to propose the development of oil supplies by the Government from deposits tributary to the Atlantic and the Gulf coasts, in addition to the oil reserves for naval purposes already established on the Pacific coast. Under a resolution of Congress this proposition is now under investigation by a committee from the Departments of the Interior and the Navy.

—(The following is greatly condensed)—

General Conditions.—As to the production of individual fields, there was no great variation in their relative importance. . . . A slight increase was noted in the output of the New York and Pennsylvania, as a result of greatly increased prices. West Virginia and Ohio declined slightly. Indiana declined less than was anticipated as a result of new developments on the western border of the State. Illinois' output declined decidedly, but active wildcatting brought in new pools south-east of Bridgeport and in the western-central region at New Plymouth. The great gains in production came from the Midcontinent and California fields. In the mid-continent more new drilling took place than in 1912. The

new output secured was enormous. Especially notable were the Wacey, Boston and Wheeler pools, while extensions of known fields both as to underlying sands and outlying territory did more to increase the output than did the newly discovered pools. For instance, the Cushing pool, with an earlier production of 30,000 bbls., had dropped to 16,000 barrels daily, but active drilling soon caused the output to mount to over 30,000 barrels daily. Deep drilling discovered the prolific Bartlesville sand, which was soon being generally drilled into and developed, along with the big excitement, a large surplus. The Healdton pool, also discovered in 1913, has since proved itself a rich territory.

In California, output and market were about even at the close of 1912 and remained fairly constant through 1913, less than a million barrels being stored. The features of interest were development of the deep Fullerton big well territory, the big Midway-Sunset and other large "West Side" wells and the discovery on the Kern River front.

As regards Texas and Louisiana fields, the main feature of interest was the evidence of an abundance of fuel oil, including the available Mexican supplies.

Stocks.—The increase in stocks during 1913 was negligible. "In fact, the decline in the high grade fields would have threatened the extinction of the Pennsylvania and New York industry, except for this stimulus of higher prices. It is evident that the great increase in the production of petroleum has aroused sufficient confidence in a permanent supply to cause capitalists to increase the capacity of pipe lines, refineries and distributing agencies. **Largest returns on such investment is dependent on running the plants to full capacity, and the greater the investment in large refining capacity, the more instantly does any threatened shortage of supply stimulate an advance in price.**"

In the matter of value of product recovered, "the one significant change in the relative value of the petroleum produced in the several States was the reversal of rank of California and Oklahoma, by which the latter State took first place by a large margin," due to the increased prices paid for Oklahoma oil as well as the largely increased output, "whereas in California there was almost no gain in price during 1913. The other States remained in about the same relative positions as in 1912, except that Kansas and New York changed places."

It is an interesting fact that since the beginning of America's Oil Industry in 1859, the Pennsylvania-New York fields produced more oil to the close of 1913 than any other region—more even than California. Unless a catastrophe should occur, this position will be reversed at the conclusion of 1915, when California's additional 210,000,000 bbls. for the two years will give this State the production lead. At the close of 1913 Pennsylvania and New York had produced 745,070,906 bbls. against California's 641,498,232 barrels of oil. The price difference is, of course, vastly in favor of the Eastern fields. Next to California's output is that of Ohio, 424,225,652 barrels, Oklahoma following Ohio with 361,847,234 barrels oil. Following Oklahoma comes West Virginia, 250 million barrels; Illinois, 210 million; Texas, 184 million; Indiana, 101 million; Louisiana, 75 million; Kansas, 51 million; Colorado, 10 million; Kentucky and Tennessee, 9 million; Wyoming, 4 1/2 million, and Missouri, 64,000 barrels of oil, the total making to close of 1913 the United States' wonderful output of 3,069,694,605 barrels of mineral oil of all grades, valued at the well as it came from the ground, at \$2,575,704,530!—And absolutely invaluable from an economic standpoint. To date, the United States has produced 59.16 per cent of the world's oil output.

World Production.—The smaller table shows the world's production in 1913 by countries, in barrels and metric tons, with percentage of total production of each country for the year; and also the total quantity produced by each country from the first industrial production in 1857 to the end of 1913, in barrels and metric tons, with percentage of total for each country. America's premier position since oil "began," and especially in 1913, is particularly noticeable and more easily fixed in the mind when the percentage columns are scanned.

OCTOBER PRODUCTION, CONSUMPTION AND ALLIED STATISTICS

(Standard Oil Figures)

Production declined about 8,000 bbls. daily in October, compared with September, with a daily increase of 32,160 barrels of surplus oil placed in storage. Total storage is placed at 56,024,899 bbls., up to November 1st. Shut-in production is estimated at 20,000 bbls. per day, making a present over-production of 52,000 odd barrels per day. While several large wells ceased producing early in November, several others came in big and thus conditions may be expected about the same. The Standard Oil statement places the production of Lakeview No. 2 Oil Co.'s star gusher at 3,000,000 barrels of oil in 167 days. The Midland Oilfields Co's gusher, which sanded up October 30, produced 8,000 bbls. daily for 107 days. The big K. T. O. gusher is said to be as large as the Lakeview No. 2 that stopped flowing and other wells recently brought in by the Standard and other companies will easily offset the Midland gusher that quit October 30. Thus there seems to be slight hope of an appreciable reduction in output for some time to come. It's just one gusher after another.

Production for First Ten Months of 1914—And Estimated Tables for Year

Production for the first ten months of the year stands at 88,039,347 bbls., a monthly output of 8,803,935 bbls. Consumption or shipments, for the same period totaled 81,639,783 bbls., or 8,163,978 barrels per month. At this rate production for 1914 will total 105,647,117 barrels—slightly in excess of the Derrick's estimate as the possible 1914 output, 105,000,000 barrels early in the present year. Consumption or shipments will total, on the average of 8,163,798 barrels monthly for the twelve months, 98,967,739 barrels, which is in excess of the 1913 production, but leaves a surplus for the year of approximately a month's consumption.

Following are the October Statistics:

FIELD	WELLS				Production Per Day
	New Rigs	Drilling	Completed Abandoned (During Month)	Producing	
Kern River	1	2	..	1,379	17,355
McKittrick	2	..	..	273	10,605
Midway-Sunset	5	36	12	1,361	135,735
Lost Hills-Belridge	1	4	2	232	12,789
Coalinga	..	11	3	835	43,353
Lompoc and Santa Maria	..	12	..	237	11,350
Ventura County and Newhall	7	26	4	427	2,617
Los Angeles and Salt Lake	..	..	..	685	6,751
Whittier-Fullerton	4	73	5	562	41,383
Summerland	..	..	..	102	148
Watsonville	..	..	..	5	75
Total	17	167	28	6,108	282,152

Total crude oil stocks, October 31, 1914, 56,024,899 barrels.

Total shipments from fields, October, 1914, 7,719,136 barrels.

Standard Oil Matters.—Standard Oil's affairs run along so systematically that there is little exciting news about the great corporation. The big events of the past thirty days have been a new 3,000-bbl. well on the Emery lease in the Whittier-Fullerton field, which it is claimed adds but 1,000 bbls. daily to the lease output, other wells de-

clining as a result of the new gusher. Lease conditions compel drilling. The marine department of the company is jubilant over the successful launching of the new tanker, J. A. Moffett, a sister to the Richmond, at the Union Iron Works, this city. The model of the Richmond, in the show windows of the Standard's main office here, affords the quickest possible understanding of tank ship construction. The Standard's oil tanker, "Atlas," has recently been re-constructed with gratifying results in regard to speed, lessened fuel consumption and general betterment.

The Company has recently announced its successful operation of a fire-extinguishing method of unusual effectiveness. The apparatus "is made automatic in action or to be manually operated, as desired. A foam-making plant for extinguishing fire is now being installed by the Company at Waite, which will protect tanks having a diameter of 90 feet and a capacity of over three million barrels." Similar plants are to be installed at various other of the Company's sales stations where there is no such protection as yet. The initial cost of protection by this insurance is about a cent per barrel. If a tank catches fire the heat immediately melts a fusible connection, losing an electric current, which in turn releases controlling valves on the solution tank, permitting the solution to flow into the lines running to the "mixers" installed in the tanks. Fusible plug valves, which melt out of the mixers with the rise in temperature, liberate the mixed solution which produces a foam that immediately runs over the burning oil and revents "access of air necessary to combustion. This foam is the result of a combination of two solutions, one containing soda, glue and glucose, the other aluminum sulphate. Carbon dioxide is produced and, in the presence of glue and glucose, make a foam the bubbles of which are inflated by carbon-dioxide gas." The foam is about ten times the volume of the solution producing it. In test cases the method has worked to perfection. The Company permits the use of the process free of charge to other companies.

Infringement of Patent.—The gas trap designed by the Trumble refinery people, Los Angeles, is declared by a local patent attorney as an unquestionable infringement of the patent granted to Dr. Eric A. Starke in 1912, covering the principle of his well-known and highly successful device.

Chamber of Mines and Oil Issues Bulletin.—As it has become the style to issue your own house or association organ, the Los Angeles Chamber of Mines and Oil has started an "Official Monthly Organ", the "Oil and Mining Bulletin", price \$1.50 per year, which will present the views of the Chamber until further notice. While excellent for its purposes, the "Bulletin" is in no sense a competitor of independent oil or mining journals, issuing no special reports on particular oil or mining companies. If coming numbers average the "initial bow," the Bulletin will be a valuable addition to the oil and mining press of its particular class.

THE RAILROAD LAND GRANTS AGAIN

Oakland Man Objects to Minot Article

Mr. M. K. Miller, of Oakland, has sent the following letter of protest to the editor of the Derrick. In publishing this letter The Derrick, of course, assumes no responsibility for the statements appearing therein, though heartily concurring in the main premise that the Southern Pacific Railroad is NOT entitled to the oil

bearing lands now in its possession, and being drained of their oil content at sufficient rate to maintain a constant over-production of oil in California. The letter follows:

Oakland, Calif.

Editor California Derrick.

Dear Sir:

There is a strange inconsistency in the otherwise excellent article by Mr. T. S. Minot, published in your issue of October 10th. He quotes from the granting act, the resolution by Congress and the Land Commissioners decree relative to the question "did title to the mineral lands within the Grant limits pass to the S. P. R. R. Co." all of which show conclusively that title did **not** pass and then concludes his article by expressing the opinion that the Supreme Court decision of June 22, 1910, which was exactly contrary to the record, is a "just decision." How can a decision palpably erroneous be just?

Mr. Minot knows as well as any man living that the S. P. R. R. Co. was not intended by the U. S. Government to receive mineral lands by virtue of the grant, and he knows that there has been no error made by any official in executing the transfer of the lands granted, by which mineral lands were either intentionally or unintentionally included. On the contrary, the record of the title of the grant lands is singularly brief, plain, simple, and consistent, and in language that is absolutely unmistakable excepts mineral lands from the grant and also excludes mineral lands **from the operation** of the granting act, and provides further for the selection of non-mineral lands by the railroad company in lieu of any mineral land discovered, thus clinching the proposition beyond any possible contention to the contrary. The title to any tract of land is best shown by the public records and in this particular case the entire record itself consists of two acts of Congress (statutes) plus the land Commissioners' decree and the Patent. The two statutes are the law of the case. The Land Commissioner's decree is also the law of the case in so far as the Interior Department has authority over public lands, and the Patent is simply written evidence of title to that which was in fact granted. As above stated this record throughout consistently and persistently excepts and excludes mineral lands from the grant and the title to mineral lands within the grant limits is exactly where this record shows it to be—in the Government, notwithstanding the Supreme Court to the contrary.

When a Court renders a decision exactly contrary to the statutes, the question at issue is not settled; on the contrary, more litigation is created and the question will not be permanently disposed of in law until the U. S. Supreme Court decides strictly in accord with the statutes, and ultimately such a decision will be rendered. Judges come and go—their tenure in office is temporary and they differ not only with each other but not infrequently reverse themselves. Their decisions are not laws but are expressions of their interpretations of the Statutes, which are the laws. In passing upon a plain question of title to land it would seem that the record itself of the title would be taken as the very best evidence, but the Supreme Court practically ignored the record in this case and deduced from extraneous data that the patent operated twofold—first, as an adjudication that all the grant lands were non-mineral; and, second, that it carried with it the granting power, and that, therefore, the S. P. R. R. Co. has had title to all mineral lands within the grant limit since the date of the patent, twenty years ago.

This surely is crediting a patent with magical powers. If a patent is the very last word, it to a certainty should mean exactly what it says and this particular patent says on its face "that mineral lands are excepted and excluded should any such be found." But the Supreme Court rules that this "exception" is void, whereas the granting act says that it shall be the duty of the Secretary of the Interior to cause patents to be issued to said Companyto the extent and amount granted to said Company by the said act of July 27, 1866 expressly saving and reserving all the rights of actual settlers, together with the **other conditions and restrictions** provided for in the third section of said act."

Here we have a special act of Congress (a statute which is the law) expressly authorizing the issuance of a patent to the lands granted (and none other) and specifically providing that the patent shall "save and reserve" all the rights of actual settlers, together with the other "conditions" and "restrictions." In other words, Congress, in making the grant, was so extraordinarily careful that mineral lands should be excluded that it embodied in a special statute specific instructions that the patent, when issued, should conform in this respect with the granting act, and it was so issued. When the Supreme Court declares the exception clause invalid, it blots out of a statute a most vital clause.

It has no power fundamentally to do any such thing and the reasoning given for such a ruling is amazingly unsatisfactory. First, it remarks that "evidently this has not been the view of the Land Department," whereas, as previously shown in this article, the Land Department when it passed upon the application for patent to this particular grant, embodied in its decree, and said decree is the law of this case, the exception and exclusion of mineral lands. Secondly, the Court remarks that "the purposes of the saving clause" 'could be accomplished only by patenting to the railroad company no lands excluded or excepted from the grant.' And according to the patent on its face, this is exactly what was done. Of course, if the record (the patent) be mutilated by chopping out the exception clause, the Patent on its face would include mineral lands, but there is no statute in existence which authorizes such mutilation. The exception clause is just as much a part of the record of the title as any other part. In fact, to the people of the United States, it is the one paramount clause in the whole record. The Court says also that it was the duty of the Land Department to determine the character of the lands before issuing a patent, but the granting act says that "mineral lands are excluded from the **operations** of the act," therefore no duty of any kind whatever attached to the Land Department relative to the mineral lands within the grant limits. The mining laws fully cover all requirements of the people in the exploration and development of said mineral lands as was the clear intent of Congress and the granting act fully provides for the acquisition by the railroad company of non-mineral lands in lieu of any mineral lands discovered.

The Supreme Court by a palpable misinterpretation of plain and simple statutes has added to all the Pacific Railroad Land Grants all the mineral lands within the forty-mile strip, thus squarely negating the will, the spirit and the letter of Congress, mulcting the people and enriching private corporations to the extent of some two billions of dollars. Congress should get busy and impress upon the Supreme Court the fact that statutes mean just exactly what they say and **must** be so interpreted.

Respectfully submitted,

... M. K. MILLER.

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

Will Inaugurate Independent Statistical Service Based on Voluntary Statements of Production.—The State Mining Bureau, after issuing a statement that "there is no adequate means of closely estimating probable fluctuations in supply and price," announces "a system of monthly statistics which will be published by the middle of each month", showing amount of oil purchased, produced and stored by each of the large companies", depending upon "the co-operation of the large marketing companies," most of which "have agreed to participate". The monthly summaries now published by the marketers are described as inefficient. The announcement contains the following rash statement: "For several years ill-informed operators have caused overproduction and thereby rushed towards financial suicide as well as maiming their more conservative neighbors." This is charitable but not in conformity with the facts. The Southern Pacific Company, through its subsidiaries, has maintained the overproduction, to a large degree, from the United States Government's oil land. Again, leasing conditions have much to do with overproduction. The Southern Pacific can't be blamed for gushers like the Obispo and Lakeview No. 2, but can reasonably be held for its own drilled gushers, which it is persistently seeking. However, the work of the Mining Bureau in publishing its statistics, will be of undoubted value. One of the beneficial effects the Mining Bureau anticipates is that the publication of its figures "will be the most effectual barrier to experimental legislation which aims at big business merely because it is big, and thereby injures everyone." On the wrong foot, again. But this sentence leads to the consideration of one big fact which will be a eye-opener to those who haven't heard of it as yet: The oil men are getting ready to do their own legislating when the next State Legislature gets together.

And its going to be mighty effective legislation, too, if what we have heard is correct.

The Coming Legislation.—"I am sick and tired of legal measures drafted by attorneys who always leave a loophole for the later breaking of said documents when they have been enacted law," said one of our informants. What he wished, he stated, was the following:

1—**An oil commission** to regulate drilling so that production and consumption should balance.

2—**A Minimum price law.** "Oil is too valuable to be given away at present prices."

3—**A law regulating the profits of pipe line companies,** the same as public utilities are regulated. "Give them a fair profit, say a net of ten per cent per year, providing for depreciation and reserve, but no profit on watered stock and no 50 to 100 per cent 'depreciation' per annum, for later distribution in dividends on increased issues of stock."

These were the important measures one well-known oil man says are bound to come and which he for one is going to press upon the law-makers.

"At the present rate of production," he says, "the majority of fields in California will be pumped practically dry inside fifteen years and the profits will in the main have gone to enrich the shareholders and officers of a few great corporations if the small producers do not move to protect themselves. Believe me or not, they see their position and a strong fight is going to be made for regulation that will free the little producer from the present throttle-clutch held by his gigantic neighbors and competitors."

Preparing Exposition Report

The Department of Mines and Metallurgy, of the Exposition, has under preparation a complete, detailed description of the Petroleum Exhibit. This report will be ready for the petroleum press in a very few days. Plans for a remarkable exhibition of present-day oil producing, refining, marketing and storing methods have been completed in detail and work is under way carrying them out. The Petroleum Exhibit will occupy a triangular space of 70,000 square feet, directly east of and adjoining of the plans and facts concerning the Exhibit, we refrain from publishing same at this time in order that there "doubting Thomases" will have disappointment only at the opening of the Exposition on February 20th. The response of the men of the Oil Industry, the Counties and States producing oil, although somewhat delayed, absolutely guarantees the Petroleum Exhibit's complete success. As features of especial interest in connection with Oil's great exhibition will be the "Fire Prevention Day", April 24, and the International Fire Waste Congress, October 7, 8 and 9, on which days the study of fire hazards and methods of fire extinguishing, as effects oil, will be discussed and demonstrated; and, the World's Petroleum Congress, lasting from October 25 to 30, inclusive, at which the world's foremost producers, refiners and technicians will convene in the most notable gathering of its nature in the history of the Industry.

Oh! Oh! Oh!

Small Boy—"Pop, what's a contraband of war?"

Matter-of-fact Parent—"Anything any belligerent can steal."

INSTALLATION OF EXHIBITS IN MACHINERY HALL AND PALACE OF MINES AND METALLURGY, AT THE EXPOSITION

A visit to the Exposition grounds these days reveals a hundred scenes of animated interest, for the magnificent exhibit "palaces" are all practically completed, and the work now being done is the last rush that precedes the conclusion of the preparation era; the finishing period.

It is an orderly rush. Freight ears deliver their respective cargoes in the centers of the buildings, when the shipments come by rail, and there is little confusion. Throughout the building stand beautiful pieces of plaster-paris statuary, yet to be mounted on their pedestals. These are of the most varied character, from Grecian friezes of rare grace of design to heroic figures of rough and commanding portrayal and huge in size. This statuary is scattered through a number of the buildings and cannot but impress anyone with the feeling that the opening day, February 20, is very close at hand.

The spaciousness of Machinery Hall is growing more apparent as the great building fills with exhibits. Looking down the long, arched aisles from the south entrance, the north end of the building appears an interminable distance away, separated by almost innumerable exhibits already installed and in process of installation. On December 8th, the Derrick's representative noticed the names of several dozen firms familiar to the trade—some familiar throughout the world—above splendid displays.

An unique exhibit, noticeable at a great distance, is being installed by Crane & Co., a wonderful valve display. Not far removed is the Busch-Sulzer Bros Diesel Engine Co.'s concrete foundation for their engine, surrounded by large solid crates among which are a consignment from the Westinghouse Company and others from St. Louis, where the Busch-Sulzer Diesel is manufactured. Across the aisle from the Busch-Sulzer exhibit is a shipment from the New London Ship & Engine Company, a six-cylinder engine operating on Diesel principle. This is near the eastern center entrance. Far to the southeast is a Barber Asphalt Paving road roller, the "Iriquois." Near by are ten exhibits of Parrott & Company, of 320 California Street, while Holbrook, Merrill & Stetson are located not far distant. Signs are visible everywhere with firm name of whatsoever exhibitor occupies, or will occupy the reserved spaces. Among the particularly prominent signs are those of the Graton & Knight Mfg. Co., A. P. Smith of Newark, N. Y., the Economy Eng. Co., Chicago; Massachusetts Saw Works, Westinghouse Electric & Supply Co., with a great many others too numerous to mention. The machinery on display in Machinery Hall, it is said, will be of a more specialized character than was the case at former expositions. The fact is that this is more or less of a specialists's exposition. There is a rumor that all the oil machinery in actual operation in Machinery Hall will use the oils manufactured at the Oil Exhibit, which will occupy a triangular tract of 70,000 square feet adjoining the machinery "palace" on the east.

Across a "garden of Allah" vista from Machinery Hall, surrounded by palms and evergreens that make a visitor certain this is the California of his dreams, lies the Palace of Mines and Metallurgy. It is a very beautiful building. Its main interest to the oil man is, of course, what it contains. At present it does not contain a whole lot—not more than half the floor space being occupied. Among the exhibitors already well advanced with their displays are the United States Steel Corporation, which

has a huge exhibit; W. P. Fuller & Company, which is constructing a plaster cast replica of the famous Taj Mahal of India—the world's most wonderful temple; the Hercules Powder Company, and the Paraffine Paint Company. There is a space of about 50 by 150 feet, which was being roped off and a raised floor constructed, which was said by an Exposition guard to be the Standard Oil Company's "reservation." Along side this space were twelve steel derricks around three feet in height, with bronze crown-blocks on which "S. O. Co." stood out prominently. But that was as far as the exhibit had progressed.

The walls of the building are being decorated with a continuous landscape possibly forty feet high, relieving the otherwise bare background of crossbars and supports. These landscapes are for all the world like the scenery in California and will undoubtedly be appreciated as in keeping with the Exposition as a whole, by appreciative visitors. Stress is laid on the beauties of the Exposition because the beautiful positively demands recognition no matter in which direction the visitor may turn. And then, too, one cannot describe exhibits which have not yet been installed—and many exhibitors, possibly the majority of them, are waiting for the closed season, from December 31 to February 20, to get their exhibits ready for the grand opening, a surprise to the whole world.

Quite an Item

Official statistics place the world-war cost to the belligerents alone at \$40,000,000 per day, or \$14,600,000,000 for one year—which would net a tidy sum in interest at 1 per cent, while, at an average of 5 per cent the sum to be paid to bondholders will be a staggering load. This does not take into consideration anguish to those who lose their loved ones, loss of the best class of men who cannot be replaced in numbers for twenty-five years at least, loss of property, loss of international friendships and trade, loss of ideals to a material degree—loss for everyone excepting the money kings, the gun manufacturers, the powder makers, the war panderers who are howling their heads off in this country today for more of this kind of business. Will they get it?

State Mining Bureau Bulletin 68, "Mineral Production for 1913", has recently been distributed under date of "October, 1914". This is a very comprehensive bulletin and of unquestioned value to everyone interested in any form of mining in California, including, of course, the State's greatest "mining" business—Oil. Under the title, "Fuels (Hydrocarbons)", coal, natural gas and petroleum are discussed in thorough style both as regards location, quantity of production, value, and so on, the importance of the hydrocarbons being emphasized by the statement that "the combined value of these three substances equals approximately one-half of the value of the entire mineral industry of the State". In the letter of introduction to the volume, the State Mineralogist expresses the laudable ambition "to so compile the statistics of mineral production that they will be of actual use to producers and those interested in the consumption of the mineral products of our State", which ambition seems to have been accomplished in the brief and handy volume presented. One of the very interesting features of the report is the State map (in relief) and the county maps showing all towns, postoffices, railroads, stage lines and distances between points; of great value also is the presentation of all the Federal and State Mining laws. A very handy and informative volume.

The Settling Tank

Presenting Brief Resumes of Informative Bulletins, Addresses and Like Matter, Gleaned From the Most Reliable Sources.

Report on Geology and Oil Prospects in Waltham, Priest, Biettrwater and Peachtree Valleys, California, with notes on coal, by Messrs. Pack and English of the Geological Survey, has just come to hand, a bulletin of the usual size and about forty pages in length. As shown on the map the area under review begins at Coalinga and extends in a northwesterly direction for about forty miles, with a width of from 11 to 14 miles. A large geological map is inserted in the back of the bulletin, a beautiful piece of work from a geological standpoint. The facts in the bulletin may be summarized as follows: "The chief conclusion reached regarding the occurrence of oil (in the area under discussion) is that most of the region shown on the map does not offer reasonable promise of yielding petroleum and that much of it is certainly barren of oil. In general, the conditions that make it impossible to consider a large part of the region a prospective oil field are the lack of a sufficient amount of material that might reasonably be considered an original source of petroleum, and the absence of structure which would aid in the concentration of such petroleum as may occur in minute quantities throughout the rocks." As a result of the investigation of this territory large areas of hitherto withdrawn lands have been restored to entry by settlers. But, "the amount of level ground suitable for agriculture is small, and the country is generally used as a cattle range." This bulletin is U. S. G. S. Bulletin 581-D.

Oil-Fired, Electrically Operated.—An innovation in "super-dreadnaught" construction has come as a result of the complete success of the collier "Jupiter," built at Mare Island Navy Yard. The first super-dreadnaught to be operated on the same principle as the "Jupiter" will be the "California," for which contract has been let to the New York Navy Yard. If results average with the success achieved in the "Jupiter," the "California" will outclass any battleship in the world.

Combined Oil Co.—The board of Directors will issue a statement shortly after the first of the year taking up the company's affairs in a general way, so shareholders will be prepared to intelligently discuss the matters to come before them at the next annual meeting. The more recent developments of interest to shareholders may be summarized as under: The Company's well No. 8 was completed November 1st, at 1308 feet, with good average production. Further drilling is being deferred as a result of general conditions, too well known to need comment. Assessment No. 8 has been and is being applied on the liquidating of such debts as the assessment was expressly levied to meet. Concerning the market, the Agency is taking only about 3900 barrels per month, but negotiations are being urged looking to the sale of excess oil, a "consummation devoutly to be wished." Sale of delinquent stock was extended until after the holidays, January 28, 1915, for the express purpose of aiding the hard-pressed shareholders to "hold on." The annual

shareholders meeting will be held in advance of delinquent sale date, notably on January 20, at the Company's office in the Phelan Building, this city. Succeeding Mr. Wilbur Dead as president, Attorney Phillip C. Boardman now occupies three positions of trust at once, those of president, treasurer and company attorney; quite a tribute on the part of the Board of Directors to his integrity and capacity as a manager.

CALIFORNIA CONCENTRATES.

The Independent Petroleum Refiners Association was perfected in Los Angeles on November 2d at the offices of the Puente Oil Company, when T. W. Okey of the Puente Co., was elected president, G. H. Gillons of the L. A. Asp. Ref. Co., vice-president, and G. B. Gallagher, secretary-treasurer. The object of the Association is to protect the refiners from the doping by garage dealers of their various brands of gasoline, a common practice in Los Angeles, and harmful to the smaller refiners. The Standard Oil Co. has its own market stations and is not affected.—**Gasoline prices on San Francisco Bay** are lower than last month by several cents. The Standard is selling Red Crown at 12½ cents; Pinal-Dome is selling "Perfection" at 12½ cents in Oakland; the Shell company is selling for 10 cents. Other companies are not known to be selling for less than 10 cents and some are getting 13, 14 and 15 cents per gallon, depending on location and disposition of owners.—**Turner Oil Co.** has just recently distributed \$1,550,000 to its shareholders, at the rate of \$3.10 per share, same being the proceeds of its sale of developed Coalinga holdings to the Shell company.—**Union Oil of California** has issued a condensed balance sheet comparing its business condition at the conclusion of the first three quarters of 1914 to the condition December 31, 1913, showing an increase of "quick" assets amounting to \$2,504,010, total quick assets being \$10,794,856.68, quick liabilities \$3,354,067.29, a decrease in the latter of \$868,308. "Fixed assets" total \$59,148,442.03.—**Kern Trading & Oil Co.** (So. Pac. Co.), brought in an immense well in section 35, 31-23, Midway, along towards the end of November, gravity 27.6 degrees.—**Belridge Oil Co.** was reported as bringing in a good well at 2900 feet in the southern extension of the Devil's Den district, gravity 39 degrees.—**Section Fifteen Oil Co.**, North Midway, is making about 30,000 barrels per month and bringing wells in steadily.—**Mineral Oil Exports from California in October** totaled 33,784,993 gallons, valued at \$1,229,933. Total exports from the United States for the first ten months of his year amounted to 1,890,056,766 gallons valued at \$119,914,880, considerably more oil than for the same period last year.—**California Petroleum Corporation** earned net, without deducting depreciation, \$1,963,780, during the first ten months of 1914. This is \$195,000 more than was earned during the same period last year.

Hale-McLeod Oil Co. has recently renewed its contract with Standard Oil to supply 15,000 barrels of oil per month. **Kramer Consolidated Oil Co.**, which has been

(Continued on Page 13)

Interesting Developments of Recent Date

Standard Oil of New Jersey is erecting a reinforced concrete pier 540 feet in length, extending from the extreme lower end of Constable Hook into New York Bay, at a cost of \$500,000.—**The export business** of the New Jersey refineries is declared to be about 75 per cent normal at present. Eastern refineries in the main are working full time. "**Zoline**," the new "substitute for gasoline," so much talked of of late, turns out to be a fake, pure and simple.—**The Potrero del Llano gusher**, the world's greatest oil well, is reported still burning, all efforts to extinguish the fierce blaze having failed. An attempt to cut off the flow underground, by tunneling to the well at a safe depth, is reported by the American Consul at Tampico. The Mexican Eagle Co., which owns the well, has successfully capped their "Las Naranjos No. 1" gusher, which for a time flowed 45,000 bbls. daily, none of which was saved.—**The American Petroleum Society** has opened headquarters in San Francisco at 506 Customs House, C. D. Chamberlain president.—**Kerosene oil imports in China** during 1913 reached almost 184 million gallons, valued at \$18,518,674. This 14 million gallons less than in 1912, but the 1913 imports brought more money. The smaller importation was due to the unsettled political situation.—**Venezuela's government** has declared inalienable all deposits of naptha, petroleum, asphalt and pitch which until the proclamation were not privately owned.—**The American Society of Testing Materials** has recommended the Saybold Viscosimeter for the testing of lubricants in preference to, the Engler, previously recommended.—**Dr. Jos. A. Holmes, of the U. S. Bureau of Mines**, declares in his annual report that the waste of mineral resources in the United States is \$1,000,000 a day, the greater portion of said waste occurring in the coal and oil industries. "Some" waste! —**Canal tolls on oil shipments** will be \$0.0673 per barrel; sufficiently reasonable to satisfy all the oil shippers.—**Mexican Petroleum Co's** subsidiary, Huasteco Pet. Co., is now operating the first 10,000-bbl. unit of the 30,000-bbl. topping plant which has been under construction the past six months at Tampico. The Company's big refinery at New Orleans is so nearly completed that it is anticipated the first runs will be made early in the new year.—**Water protection legislation** fathered by the State Mining Bureau is reported as receiving the endorsement of the Executive Committee of the Independent Agency. Before the bill embodying this legislation is submitted to the legislature it will receive a thorough public discussion so that it may be un-opposed when presented to the law-makers for action. Briefly, the bill provides for the formation of districts, when desired by owners or operators. A special tax is to be levied on the land and personal property used in producing oil. The annual tax in any one district shall not exceed \$25,000. All payers of this tax shall vote at an election of seven trustees, who shall sit as an arbitration board in investigating various wells or property. The board must appoint a geologist or engineer and may appoint other employees. The law is, in short, patterned after the highly successful agreement of the Coalinga operators, with a few changes, among which is a clause compelling an annual report by trustees

and geologist to the State Mining Bureau. The oil business, be it observed, is drifting more and more towards State regulation.—**The Imperial Oil Company of Canada, Ltd.**, is a subsidiary company of Standard Oil of New Jersey. The latter Company has entered into a wholly British business conducted from New Jersey, the producing properties of which are in Peru, and the refinery at Vancouver, B. C. The Imperial Oil Co. of Canada has taken over the London & Pacific Petroleum Oil Co., Ltd., the West Coast Oilfields Co., Ltd., and the Lagunitas Oil Company, and may absorb the Lobitos Oilfields Co., a subsidiary of Standard Oil of California. The move is very shrewd because the Canadian law admits crude oil free of duty but imposes a high tariff on refined products, blocking California competition in anything but crude and virtually in that product also, as the refinery in British Columbia can put its topped oil on the market at a profit impossible to realize on crude.—**1914 Russian Oil Output** will register a decrease of about 25,000,000 "Poods" or around 3,000,000 barrels, as a result of the big oil workers strike and the war.—**An Oklahoma pipe line** from Healdton fields to tidewater on the Gulf, is reported as not only projected but almost under construction, financed by Robert Watchorn, former treasurer of Union Oil of California.—**Another Oklahoma Pool** is reported to have been opened up by Prairie Oil & Gas Co., former Standard subsidiary. Oklahoma's overproduction was sufficient before this new discovery. "To the finding of oil there is no end."—**Bids to Supply Fuel Oil For Canal**.—The Oil World states that "bids to supply the Government with 600,000 barrels of fuel oil for vessels passing through the Panama Canal range from \$500,000 to \$700,000, according to the quality furnished."—**Reorganization of General Petroleum** is now believed a polite phraseology to express the completion of a dicker whereby the Santa Fe Railroad Co. will come into control of General Petroleum and the shareholders will be left in "below-zero", exemplifying the phantasies of finance; "Now you've got it and now you ain't."—"Why Optimism?" was the title of Dr. Geo. Otis Smith's address to the American Mining Congress. Then he told them why; because the United States is building and other world powers are destroying. Therefore Optimism. Simple as day, and plain to anyone when stated so clearly as by the Director of the Survey. The Director of Commerce states that if the war lasts a year it will bring an additional half billion dollars in trade to the United States. But it sure is all that Gen. Sherman said, and then some, on the nations engaged.—**The McCutcheon Oil Land Claims Case**, involving title to Maricopa oil property of great value, and known as the Hawk claim or location, has not yet been finally decided, Special Assistant Attorney General E. J. Justice having succeeded in holding the decision pending the consideration of new developments or angles of the case.—**The Shell Company of California**, Dutch-Shell's subsidiary, has ordered a tank steamer of an Atlantic ship-building company, for delivery about a year hence. Capacity will be 65,000 barrels, and the vessel will be ready just about the time the pipe line and refinery are in good running order.—**The American Gas Institute** will have an exhibit of gas appliances occupying 10,000 square feet in the Palace of Manufacturers at the Exposition. The In-

International Gas Congress will convene at San Francisco during the week of September 27, 1911.—**Dr. Harry Johnson**, the well-known California geologist, is quoted as saying that the "Flathead" country in Southeastern British Columbia looks to him the most promising Canadian oil field.—**Gasoline in Germany**; practically all the gasoline in Germany is reported to have been "commandeered."

Big Tanks for Mare Island Navy Yard. Bids for two four-million gallon oil tanks for naval uses, to be constructed at Mare Island, have been called for by the Navy Department. The navy yard will probably construct several of the 1,110-ton destroyers for the U. S. Navy.—**War Stamp Tax on Proxies**, as follows: "Power of attorney or proxy for voting at an election of officers of any incorporated company or association" with some exceptions, will require a 10-cent revenue stamp on each proxy while the act is in force. This should be noted at this time, as many annual meetings occur in January.—**25,000,000 feet of gas per day** is the reported output of a gusher struck by the Ohio Oil Co. in Little Buffalo Basin, Wyoming.—**High class maps of Wyoming and Washington** states have recently been published by the U. S. Geological Survey. These maps are accurate to the smallest detail and sell at the small price of 30 cents for the Wyoming and 25 cents for the Washington maps. Maps show railroads, cities, villages, lakes, streams, county boundaries, national forests, Indian reservations, Yellowstone Park, etc., etc. The finest kind of maps for the oil man's ready reference.—**Oil confiscated:** By imperial order of the Austrian Government the entire oil output of Austria-Hungary has been confiscated. Refiners are forbidden to supply any trade. Its a "gasoline war" that is a gasoline war.—**Oil Struck in Washington:** A splendid strike of high gravity, paraffine-base oil is reported to have been made at Tenino, Washington, by the Crescent Oil Company on the property of Mrs. Cora B. Forbes of Alameda, Cal., and a tremendous excitement is sweeping Seattle, Tacoma, Olympia and all Northwestern Washington.

Santa Maria

Both old and new fields are quiet at present, as for some time past, but while quiet there, nevertheless, has been a steady development of the proven district, and recently wells brought in by the Pinal-Dome Company on the Escolla tract have extended the field. The Santa Maria Oilfields Co., Ltd., has recently brought in a 200-bbl. producer. The Palmer Union Oil Co. has got its No. 14 down 3200 feet. This is the well on the Stendell property, adjoining the S. M. Pet. & Pipe Line Co., and Brooks Oil Co. properties, and is making considerable gas and oil, indicating a good producer. It will be carried down another 200 feet, The Palmer's "standbys," 2, 3, 4 and 11, continue a steady production, the latter showing increasing gas pressure. The Company now plans drilling No. 15, which will be located between wells 2 and 4. Frank L. Brown, president of the Palmer, reports general optimism on the part of Santa Maria operators, who believe 1915 will be a big year for the field.

British War Department is reported to have accepted the bid of a St. Louis firm for 1,700,000 flannel army shirts at a price well in excess of \$2,000,000. Another St. Louis firm received a contract for 7,000 sets of harness, cost \$175,000. Wisconsin knitting mills are turning out 108,000 dozen pairs of woolen socks and 400,000 sweaters for the British and French armies, while Grand Duke Michael of Russia has presented the French army with 1,000,000 pairs of shoes manufactured at Webster, Mass. Other immense orders are being filled.

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California Concentrates (Cont.)

wild-eating on section 11, 10-14, Kern County, (Mojave Desert), is reported by the Oil World to have gone into oil at 2125 feet. Two other wells in this district are reported to have promising prospects and it may be that a new field has been brought in. If so, oil prices will not advance with any startling rapidity for some time to come. **Miocene Oil Co.'s** No. 2 well, the gusher, is reported making 6,000 bbls. daily of 26.8 gravity, sold to Standard Oil. **Shell Refinery**, at Martinez, is expected to be completed about March 1st. The first machinery or equipment has been shipped from Los Angeles for installation. **Amalgamated Oil Co.** has just brought in a new well doing 200 bbls. per day, on its "82-acre" tract. It may increase its output. **Monte Cristo Oil** is curtailing operations, president Henry Aeh says. Mr. Aeh states curtailment is the order of the day in Fullerton. **Lakeview No. 2 Oil Co.** is going to clean out the gusher hole and try to "bring her back." Unusual preparations for the event have been under way and every effort will be made to assist the overproduction by "bringing her in big." If this Company doesn't do it the wells of the adjoining companies will get the underlying oil. The Kern Trading & Oil Co., (S. P.) is already seeking to tap the same oil body. **Shell Co.'s Sacramento Stations.** It is said that the Shell Co. will expend \$250,000 on five delivery stations in Sacramento alone. Very efficient service is rendered by this company and its prices are invariably as low as those of competitors and sometimes lower. **Rancho La Brea Oil Co.'s** gasoline-from-gas plant, located in Los Angeles, is reported completed and "delivering the goods." **Union Oil** is building twenty storage tanks of 55,000 bbls. capacity each, at the following points; San Luis Obispo,

Junction and Stewart, eleven of the tanks at the last named Point.

Dutch-Shell Co. has started the gasoline plant on section 2, 20-15 again. The plant has been closed since it was acquired by the Shell Co. from the Turner Oil Co., but business is expanding sufficiently to warrant its operation. **Kaweah Oil & Dev. Co.**, sec. 30, 21-16, is preparing to do the annual assessment work necessary to retain the property. Development was discontinued two years ago, when a depth of 3420 feet had been reached and the money gave out. Water was encountered at 700 feet and oil stratum entered around 2200 feet. **Walter J. Cluney** of this field, and an assistant named Nelson, are located at Khwar, Pindigheb, India, with the Attock Oil Co., 1500 miles inland from Bombay, and 60 miles from any other white people. They find themselves great curiosities to the natives long distances to see the "strange men." **Kern Trading & Oil Co.** has brought in a well producing a very high quality lubricating oil, on section 7, 21-15, using 280 lbs. of 80 per cent nitroglycerine to open up the formation—a hard sand. Entire success was achieved. **Capt. J. F. Lucey** is chairman of the American Relief Bureau in Holland, ministering to the wants of the Belgian refugees, and achieving a big success in his charitable efforts to aid this stricken people. **Southern Pacific Co.**, through K. T. & O. Co., is drilling a lot of U. S. land in order to get the oil while it's there yet.

Seaboard Oil & Transit Co. has issued a short report on the condition of the Company. This report has not yet come to hand. The Derrick expects to publish a report of the Company's finances and condition during 1914, early in the new year.

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THE STOCK MARKET

Since the Federal Regional Reserve Banks opened, November 16, business throughout the land has taken a marked tone of betterment. Stock and bond exchanges report a notable increase in business transactions, which had been extremely quiet until the new system got into motion. While not doing any rushing trade at this time, still they are doing business, in the face of the war, the holiday season and the remains of the depression which the whole world was suffering at the time the war broke; in this country, the seven lean years since the panic of 1907, when Wall Street was in control of the Nation's finances.

All of which is by way of re-introducing our Stock Market page of quotations and comment. Oil stock sales are as quiet in San Francisco as ever. The recent quotations are few and mostly of the dividend-paying variety, or those with the greatest assets in proportion to capitalization. Amalgamated Oil is \$71.75 bid, twice the amount bid for Associated, its controlling parent, for which \$34.50 is bid. For Caribou \$1.50 is asked December 8. Coalinga Central commands a bid of ten cents; Coalinga Mohawk 36 cents bid, 70 cents asked. For Ill. Crude 5 cents is asked; 10 cents bid and 15 cents asked for Pacific Crude Oil. Union Oil still sticks at \$45 bid. For United Oil 25 cents is bid. This reviews the recent San Francisco oil stock activities as shown on the official daily list.

Los Angeles quotations are much more voluminous and show the greater interest in oil that Los Angeles has always manifested. This list covers latest quotations:

Company	Bid	Asked
Amalgamated Oil	71.50	74.00
Associated Oil	35.00	35.75
Brookshire Oil .....	.10	.20
California Midway Oil Co. ....		.05
Caribou Oil Mining Co.		1.25
Central .....	.74	.....
Columbia .....	.70	.80
Enos Oil Co. ....	.01	.05
Euclid Oil Co. ....		.07
Fullerton Oil		3.50
Globe .....		.03
Mascot Oil Co. ....	.35	.45
Mexican Pet. Ltd., pfd.	65.00	.....
Mexican Pet. Ltd., com.	45.00	.....
Midway Northern .....	.14½	.16
National Pacific Oil Co. ....	.04	.....
New Pennsylvania Pet. Co. ....		.40
Olinda Land Co. (Oil).....	.27½	.35
Rice Ranch Oil Co.	1.01	1.15
Trader's Oil Co.	15.12½	24.00
Union	47.00	47.87½
Union Provident Co.	44.00	.....
United Petroleum	45.00	.....
United Oil Co. ....	.33	.35
West Coast Oil, pfd.	90.00	.....
Western Union	82.50	86.00
White Star Oil Co. ....		.11

Justice of "Charity at Home First" Recognized

Since the Derrick's editorial on charity beginning at home, a State-wide movement has been inaugurated advocating the very objects which the Derrick promulgated as bare justice to the people of this State. We don't take credit for this movement, but we do take credit in giving it a good start when it needed that start badly. The big topic of discussion at present is the necessity for providing for California's indigent workmen, particularly to give these men a chance at the lands. Third, that those here shall have the first opportunity; that opportunities shall not be snatched from under the noses of the needy already here to be given to newly imported workers.

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1914---Oil's Greatest Year

NATIONAL OIL SITUATION, AS SHOWN BY THE U. S. GEOLOGICAL SURVEY IN PRELIMINARY STATEMENT

California—Oklahoma Output Combined Totalled More Than Two Hundred Million Barrels

The phenomenal increase which has characterized the growth of the petroleum industry in the United States during the last eight years was more than maintained in 1914. The amount of petroleum produced in the last 12 months approximated 292,000,000 barrels, according to estimates of John D. Northrop, of the United States Geological Survey. These preliminary figures indicate an increase of more than 13 per cent over the production in 1913, which reached the record-breaking total of 248,446,230 barrels. The enormous output in 1914 may be attributed to the remarkable success that attended the great increase in field activities stimulated by the high prices which prevailed in 1913 and in the early part of 1914.

The spectacular results of deeper drilling in the Mid-Continent and Gulf regions; the development of a number of prolific pools in Oklahoma, northern Texas, and northwestern Louisiana, in areas little tested at the end of 1913; the successful extension of many proved districts in the Appalachian and Mid-Continent regions; the discovery of new productive fields and the increased development of the old fields in Wyoming; and the large number of gushers completed in California comprise in brief the principal factors contributing to the production in 1914.

The following table gives an estimate of the production in 1914 and the actual production for 1913, in barrels:

State	1914	1913
California	103,000,000	97,788,525
Oklahoma	98,000,000	63,579,384
Illinois	21,000,000	23,893,899
Texas	20,000,000	15,009,478
Louisiana	15,000,000	12,498,828
West Virginia	11,000,000	11,567,299
Ohio	7,500,000	8,781,468
Pennsylvania	7,000,000	7,963,282
Wyoming	4,600,000	2,406,522
Kansas	3,700,000	2,375,029
Indiana	700,000	956,095
New York	800,000	902,211
Kentucky	500,000	524,568
Colorado	150,000	188,799
Other States	50,000	10,843
	292,000,000	248,446,230

The rapid downward trend of the petroleum market in April and succeeding months, due to overproduction in the Mid-Continent region, supplemented by the temporary decrease in exports following the declaration of war in Europe, resulted in the curtailment of operations in all districts, the shutting in of wells wherever practicable, and the confining of new work for the most part to shallow sand areas. Toward the end of the year the firmer tendency of the market resulted in a slight increase in field activity.

Appalachian Region

In New York development work was confined to proven areas. Considerable activity was noted during the later part of the year in the Seio field, a shallow-sand area in Alleghany County.

In Pennsylvania the greatest activity was in the southwestern district, including Allegheny, Beaver, Butler, Washington and Greene counties, where the best producers of the year were found and where slight extensions of productive areas were made. In the Venango-Clarion and McKean-Warren fields nominal activity prevailed in defined areas.

In West Virginia interest was about equally divided between the Sardis district, in Harrison County, and the Elk district, in Kanawha County, the two districts from which the bulk of the State's production is obtained. The Sardis district was fairly well defined though considerable proven territory remains to be drilled. Extensions of productive area were credited to the Weir sand field in Kanawha County, and promising discoveries were made in Wirt and Braxton counties. Developments in other fields of the State were without noteworthy results. Considerable wildcatting in the southwestern part of the State failed to discover a new pool.

In southeastern Ohio activity was most apparent in Hoeking, Perry and Fairfield counties, where comparatively regular sands, together with extensions of the Union Furnace, Gore, and Logan fields, furnished a keen incentive to drilling operations.

In Kentucky the bulk of the production came from the deep-sand fields of Wayne, Morgan and Wolfe counties. Wayne County showing perhaps the greatest activity. In Allen County territory was added to the Scottsville pool, and in Ohio County promising completions in advance

of the Hartford pool indicated an extension of producing limits.

Lima-Indiana

In northwestern Ohio and eastern Indiana drilling was confined for the most part to proven areas which were not notably extended. The net yield of the area shows a decline from that of 1913.

In Indiana the greatest activity took place in the Shelduburne pool, Sullivan County, a shallow-sand field in the southwestern part of the State, which proved the mainstay of the State's production. Late in the year the pool was fairly well defined by dry holes, and the output of oil registered a decline.

Illinois

Aside from the developed fields in Illinois, which maintained a nominal activity throughout the year, interest was attracted to McDonough County, in the western part of the State, where a shallow-sand pool of small dimensions was opened April 30 on the Hoing farm, near the village of Plymouth, and to Lawrence County, in the southeastern part of the State, where the bringing in of a gusher on April 6 on the Murphy farm, in Dennison Township, resulted in the development of a pool, not yet fully defined, a short distance northwest of St. Francisville.

Mid-Continent Region

Oklahoma furnished the most spectacular as well as the most demoralizing feature of the year in review. At Cushing the development of the deeper lying prolific Bartlesville sand and the rapid extension of productive limits, particularly to the northeast, increased the daily output of the field from 23,000 barrels the first week in January to more than 225,000 barrels in the latter part of December. The figures of actual above-ground production, though forming the basis for the estimate of Cushing's contribution to the State's net yield, fail to represent the true capacity of the field, as the flow of many of the wells is reduced to a minimum or completely shut in.

In Carter County, southern Oklahoma, the development of the Healdton pool, though overshadowed by Cushing, was sensational. Early in January the estimated production from seven wells was considerably less than 1000 barrels, but late in December the estimated production of the field, with many wells shut in, was more than 35,000 barrels a day.

Aside from the progressive development of the older fields in Oklahoma, note must be made of the extensive area of oil land proved during the year in Okmulgee and Muskogee counties, including the new Boynton pool, in T. 14 N., R. 16 E., and recent discoveries northwest of Muskogee, in T. 15 N., R. 17 E.; the discovery of oil in the Loco gas field, Stevens County; the promising development near Lawton, in Comanche County; and the disappointing results at Allen, Pontotoc County, at Inola, Rogers County, at Newkirk, Kay County, and in the vicinity of the one productive test drilled near the Kansas boundary by Buell and Jones in T. 29 N., R. 1 E., also in Kay County.

Kansas

Considerable activity was manifest in all the oil-yielding areas of Kansas, which resulted in a net increase in the State's production, as well as in an extension of many of the shallow-sand pools.

Northwestern Louisiana

Aside from the substantial southward extensions of productive limits which characterized developments in the Caddo field and the conservative enlargement of the DeSoto field, a new oil field, as yet undefined, resulted from wildcat drilling in the eastern part of T. 13 N., R. 11 W., in Red River Parish, and rounded out the year with a doz-

en producing wells to its credit. In Sabine Parish efforts were made to develop an oil pool in T. 10 N., R. 12 E., in the Pelican district.

Northern Texas

Wildcat activity characterized the Panhandle region. A shallow sand extension of the Electra pool at Fowlkes station attracted considerable attention. Developments in the Moran gas field, Shackelford County, indicated the presence of oil in an area as yet undefined. At the end of the year the Burkburnett pool showed the greatest activity, and interest was at low ebb in the Petrolia and Iowa Park areas. Experiments at Burkburnett early in the year demonstrated, contrary to general opinion, that the shooting of shallow wells in the Panhandle region is a material aid to production.

Gulf Fields

In coastal Texas and Louisiana active wildcatting failed to discover and new oil fields during the year though enormous gas flows were encountered in Zapata County near the Mexico boundary and in San Patricio County, both in Texas.

In the developed fields interest was evenly divided between Sour Lake, Texas, and Edgerly, La. which vied with each other in furnishing gushers of unusual size from deep-lying sands. The entrance of salt water in many of the Edgerly wells left interest centered at Sour Lake at the close of the year. Deeper drilling at Humble, Markham, Vinton and Batson resulted in temporary halts in the declining production of the older fields.

Wyoming

Production in Wyoming was materially increased during the year by improvements in refining facilities at Casper and Cowley, which resulted in marked activity in the Salt Creek and Byron fields. Revived activity was apparent in the old Greybull-Basin fields, in Bighorn County, where a number of excellent wells made a considerable increase in oil production. Chief interest was, however, centered in the new field at Grass Creek, in the southwestern part of the Bighorn Basin, where the first oil well, located in sec. 18, T. 46 N., R. 98 W., sixth principal meridian, was brought in early in June. By the middle of December 18 wells had been completed, in the field, all of which showed oil, though in 6 of the wells the quantity was scarcely sufficient to warrant a commercial rating. The dome-like structure which the Grass Creek tests have proved productive of oil, highly favors the ultimate development of an oil field of considerable importance in that locality. A few miles northwest of Grass Creek, near the northeast corner of T. 47 N., R. 100 W., sixth principal meridian, 2 wells have proved the presence of enormous quantities of gas along the crest of an eroded anticline in Buffalo Basin, though no oil has been found.

In the Shoshone Reservation, Fremont County, 6 wells drilled during the first half of the year in sec. 30, T. 2 S., R. 2 E., Wind River meridian, yielded an estimated production of 200 barrels of fuel oil a day and opened a new field about 2 miles northeast of Lander. In other fields of the State developments were without notable interest.

Utah

A small amount of unsuccessful drilling was done during the year in the San Juan field, Utah, and late in the year the discovery of a small amount of oil in a well in sec. 36, T. 20 S., R. 5 W., Salt Lake meridian, aroused considerable interest in Fillmore County.

Colorado

Although wildcatting was active in Colorado, no new fields were discovered and the State's production continued to be derived from the declining Florence, Boulder,

and Rangely fields, though there was a flurry of excitement at DeBeque early in the year.

California

During 1914, as in the previous year the greatest development centered in the Sunset-Midway region, where a number of large flowing wells were completed, for the most part in the Buena Vista Hills and Maricopa flat areas. The most spectacular of these wells was that of the Lakeview No. 2 Oil Co. in Maricopa Flat, which ran wild from May 10 to October 25, the estimated daily flow reaching at times as much as 50,000 barrels. At first the well produced practically pure oil, but water eventually broke in, and during the last few weeks the production was over 60 per cent emulsion. In the north end of the Midway field relatively shallow wells penetrated unusually thick oil sands and during the year this section of the field was closely drilled. In the southern fields the drilling of deep wells continued in the Coyote Hills, south of Los Angeles and a number of flowing wells were completed.

The Shell Co., which entered California late in 1913, completed a tank farm in the North Midway field and commenced work on a pipe line between Coalinga and San Francisco Bay. In the later part of the year operations were greatly curtailed owing to the lack of market resulting from the European War, and at the close of the year only one or two companies were continuing new work in the Sunset-Midway field.

Other Fields

In Washington experimental drilling was continued at a number of points in the Quenault Reservation and in the Olympic region, without encouraging results.

Tests in Oregon, New Mexico, North Dakota, Missouri, Michigan, Arkansas, Mississippi, Alabama, Maryland, and New Jersey likewise failed to justify the hopes of the drilling companies.

California Production Consumption and Allied Statistics For Month of November, 1914

(Standard Oil Figures)

Daily output is placed at 259,711 barrels, a total for the month of 7,791,330 barrels, and shipments of 6,746,952 barrels, in the Standard Oil figures, which denote a dropping off of 1,046,000 barrels market from the October figure. The overproduction would average 35,000 barrels daily, not counting 25,000 barrels shut-in production. There was a potential surplus of 55,000 barrels per day. That being understood any immediate "picking up" in the fields cannot possibly be expected. The producers are drowned in their own output. The Standard's statement shows that some producers are desperate—witness the following:

"The continued period of over-production finds a tendency toward some demoralization in crude prices. The physical inability of the large crude oil purchasers to care for all of the production has resulted in some oil being thrown on the market at bargain counter prices. While the Standard Oil Company has made no purchases at prices below its regular schedule as of October 3, 1914, a few sales to other purchasers have been recorded at prices from 20 cents to 25 cents per barrel at the well."

Even with the above true, such producers as have contracted at 20 cents for their entire production are better off than many members of the Independent Agency at the present time. The big over-production is directly the result of the State's gushers plus the continued drilling

the Southern Pacific and one or two of the big marketers, with the slackened business due to the war.

Following is the regular table:

FIELD—	WELLS—				Production Per Day
	New	Re-opened	Completed During Month	Abandoned During Month	
Yern River					1,406
McKittrick	1	2			269
Midway-Sunset	7	29	9	2	1,351
Lost Hills-Beiridge	2	4	2	3	238
Coalinga	3	9	2		826
Lompoc and Santa Maria		11	1		234
Ventura County and Newhall	1	18	5		438
Los Angeles and Salt Lake	1				687
Whittier-Fullerton	2	76	5	1	567
Summerland					102
Watsonville					5
Total	17	149	24	6	6,123

Total crude oil stocks, November 30, 1914, 57,071,068 barrels.

Total shipments from fields, November, 1914, 6,746,952 barrels.

November Exports From California

	San Francisco		South. Calif.	
	Gals.	Dollars	Gals.	Dollars
Crude			100	6
Illuminating	14,255,826	654,902	2,809	512
Lubricating and Paraffin	174,600	21,590	1,034	297
Najthas, Gasoline, Etc...	947,825	96,668	6,455	600
Residuum, Gas Oil and				
Fuel Oil Etc.	19,200,117	348,263	43,626	828
Totals	34,578,468	1,121,423	54,024	2,243

Grand total California exports in November 34,632,512 gallons valued at \$1,123,666. Total American exports first 11 months of 1914, 2,057,588,767 gallons, valued at \$128,944,580. A resume of the year's business will appear in the next issue.

Tremendous Business.

It is said among local "inside operators" who keep close track of the big marketing companies of this State that using last year's figures as a basis for computation as to prices received and the estimated percentage of oil both produced and purchased by the Standard Oil Co. of Calif., that Company did a 1914 business—gross—of from \$55,000,000 to \$65,000,000; possibly nearer the latter figure. This is, of course rough, but its merely an estimate. If the net profit was ten per cent of the larger figure it would total \$6,500,000, leaving a tidy \$1,500,000 to be disposed of as the directors see fit. The probability is, however that the net would be nearer twenty per cent, or \$13,000,000, judging by the past annual performances of the Standard Oil Co. of companies, all of which are noted for their efficiency in rolling up a large net return. Standard Oil of California is now quoted on the New York Curb at \$310-\$313.

Production Rank of States in 1913, Showing percentage of U. S. and World's Output for each

(Geological Survey)

STATE—	Quantity	PERCENTAGE of United States	PERCENTAGE of World
California	97,788,525	39.36	25.63
Colorado	188,799	.08	.05
Illinois	23,893,899	9.62	6.26
Indiana	956,095	.38	.25
Kansas	2,375,029	.96	.62
Kentucky	524,568	.21	.14
Louisiana	12,498,828	5.03	3.28
New York	902,211	.36	.24
Ohio	8,781,468	3.53	2.30
Oklahoma	63,579,384	25.59	16.67
Pennsylvania	7,963,282	3.21	2.09
Texas	15,009,478	6.04	3.93
West Virginia	11,567,299	4.66	3.03
Wyoming	2,406,522	.97	.63
Other states*	10,843	...	...
Total	248,446,230	100.00	65.12
Foreign countries	133,062,686	...	34.88
Total of the world	381,508,916	...	100.00

*Includes Alaska, Michigan, Missouri, and New Mexico

1914

Production, Consumption and Surplus of California Oil

SUMMARY OF YEAR'S OPERATIONS AS FURNISHED
BY STANDARD OIL COMPANY

Over Five and Three-quarter Million Barrels Increase

1914..... 103,623,695 bbls.

1913..... 97,867,148 bbls.

PRODUCTION for 1914 crept up to 103,623,695 barrels. In addition to the actual output there was shut-in during the year, an average of 16,600 barrels daily, equivalent to 5,840,000 barrels. With the existence of sufficient demand, California might have yielded during 1914 well over 110,000,000 barrels. The Midway-Sunset and Whittier-Fullerton Fields for the year yielded increases of 11,000,000 barrels and 3,500,000 barrels, respectively. All other fields showed a decline.

Summary of oil field operations and production, 1914:

FIELD—	Rigs Completed During Year	WELLS		Production For Year	Production Per Day
		Completed During Year	Abandoned During Year		
Kern River	9	15	2	7,030,545	19,262
McKittrick	12	9	5	3,820,857	10,468
Midway and Sunset.....	181	206	12	50,025,843	137,057
Lost Hills and Belridge.....	42	49	10	4,830,921	13,235
Coalinga	13	30	11	15,925,887	43,633
Lompoc and Santa Maria.....	9	6	2	4,303,080	11,789
Ventura County and Newhall.....	33	35	3	968,421	2,653
Los Angeles and Salt Lake.....	5	9	8	2,504,475	6,862
Whittier-Fullerton	81	62	2	14,130,548	38,714
Summerland .....	..	..	..	55,743	153
Watsonville .....	..	..	..	27,375	75
Total	385	421	55	103,623,695	283,901

Total crude oil stocks, December 31, 1914.....58,526,274 Bbls.

Total crude oil stocks, December 31, 1913.....47,870,177 Bbls.

Increase during year.....10,656,097 Bbls.

Daily increase during year..... 29,195 Bbls.

The Settling Tank

Presenting Brief Resumes of Informative Bulletins, Addresses and Like Matter, Gleaned From the Most Reliable Sources.

Petroleum Exhibit, P. P. I. E.—As per statement in our last number, the report of the management of the Oil Exhibit has given out the program or summary of the same, which will consist of nine principal divisions, as follows: 1. A Pictorial Display. 2. A Geological Display. 3. A Statistical Exhibit. 4. a Library of Petroleum Literature. 5. A Technological Exhibit. 6. Display of a Large Collection of Crudes and Refined Products. 7. Exhibit Displaying Housing and Sanitary Problems and Correct Handling. 8. Lectures. 9. Exhibit Displaying Fire Hazards and Methods of Preventing and Fighting Fires. **The Technological Exhibit** will include the following: Drilling and production; 2. Transportation and storage; 3. Protection against loss by fire; 4. Refining; 5. Testing laboratories; 6. Using; 7. Special Equipment, as, water, oil, electric separators, gas compressors, oil gas producers. The exhibit will be as heretofore mentioned in the Derrick, the most thorough and comprehensive yet attempted.

"Proposed Oil Land Leasing Bill" is the title of a brief article by "Col." Tim Spellacy in the Los Angeles Chamber of Mines publication, in which Col. Spellacy declares that the leasing bill now pending in Congress "should prove satisfactory providing the leases are not restricted to such an extent as to work a hardship upon the lessee, and as there is no doubt but that this bill will be enacted into law, the oil producers should render every assistance possible in framing the measure, as the government is inclined to treat fairly." A delay has been asked in the passage of the bill, by the Oil Lands Legislation Committee of the Los Angeles Bureau of Mines, "to give the oil men time to study the measure."

The Figures on 1914 Showing Production, Etc., also show that the Derrick foresaw nine months ago the probable output—to within 200,000 barrels, including the possible output, closed in. Those who read the Derrick get the facts pretty close. However, no homblowing.

Germany isn't worrying about motor fuel; her chemists solved this problem long ago. Alcohol and Benzol are the substitutes for gasoline.

"Mineral Products of the United States—Review of conditions and Output in 1912 and 1913" by Edw. W. Parker and W. H. Thom of U. S. Geological Survey,—Bulletin 1: A, is a record of progress which should be on the desk of every corporation and individual engaged in any of the various branches of the Mineral Industry of this country, to give them the most comprehensive and reliable data available. This volume comes to hand too late for review.

U. S. Quicksilver Production for 1914 totalled 16,568 flasks of 75 pounds each, valued at \$49 per flask, a total of \$811,832. There was a heavy decline in California production.

Hearings on Ferris Land Leasing Bill closed early in January.

Mexican Oil Conditions change daily, or rather, as rapidly as the flow of Presidents and generals into and out of command. Conditions are reasonably stable in Tampico, however, considering the national turmoil. Mexican oil is variously reported at from 15 to 30 cents per barrel. The National Oil Corporation has awarded contract for a large new pier on the Panuco River, opposite the S. O. Refinery at Tampico.

The "Cant Fail" Suit Against the S. P. Co.

The U. S. Government's suit to recover the 6100 acres of Elk Hills oil lands, which the government contends were acquired by fraud in that these lands were taken as agricultural when granted the S. P. Co., knowing perfectly that they were mineral-oil yielding lands, will probably begin by the time this number of the Derrick is issued. Willis N. Mills and J. C. Crawford, of the U. S. Attorney General's office at Washington, have visited San Francisco and have been conferring with E. J. Justice, the special prosecutor in this case, as to the exact date when the suit shall be filed, and details in the matter of its filing. Attorney Crawford is quoted as having declared—"The defense hasn't a leg to stand upon and will have no more chance to win the suit than it did to prove that oil is not a mineral." He also stated that detailed information in the government's possession left not the smallest vestige of doubt as to the crookedness of the Company in getting the grant put over.

Railroad Commission Upholds Pipe Line Acts.

On January 2nd, the California State Railroad Commission declared in a decision in a case that was instituted on its own motion to determine what pipe line companies operating in California come under the Pipe Line Acts of 1913, that "The Standard Oil Company, Associated Oil Company, Producers Transportation Company and General Pipe Line Company of California are common carriers and public utilities subject to the provisions of the Public Utilities Act of that State." Which means that these companies are exactly in the same position as any other utility in California, subject to the Railroad Commission, which state of subjugation includes the regulation of rates, service, stocks and bonds and other securities. The smaller pipe line companies, or rather companies carrying on a small business with pipe lines as a convenience of their operation, are placed by the Commission's decision in the category of exempted concerns which the Public Utilities Act provides for as follows: "Where the nature and extent of their business is such that the public needs no use in the same the conduct of the same is not a matter of public consequence." The decision was anticipated by most people connected with the business to be regulated. The only company not to fight the act was the Standard Oil Company, which elected to come under its provisions if the act was found to be constitutional, a matter now before the State Supreme Court on an injunction obtained by the Southern Pacific interests (Associated Oil—K. T. O.) temporarily preventing the commission from enforcing the act.

California Derrick

The Oil Authority of the Pacific Coast

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

"Jitney" Busses and Street Car Systems

When it was first stated that Thos. A. Edison had manufactured lights that could easily compete with gas, and would unquestionably displace gas in a great many gas strongholds, incredulity was general. Then, as Edison's answer, came his demonstration to a chosen company of public officials, reporters and friends. The next morning the stock of the strongest gas companies in the United States was being offered at half price by a panic stricken multitude. Few seemed to realize that there was room for both gas and electricity: Both kinds of corporations are today among the strongest public utilities in point of security value to shareholders, with commissions regulating their profit and general administration, seeing to it that the shareholders receive as fair treatment as does the public served by them.

Today "jitney busses" are grabbing thousands of nickels from the street car systems of San Francisco, Los Angeles and other large cities, and a great cry is going up against them. "How will the municipal lines pay, with this free-for-all competition come full blown upon us from nowhere?" "Is it right that the United Railroads should pay a great sum to operate and then have its patronage cut in half?" These are two questions only, of the many being asked since every old auto has been transferred into a "jitney bus" with a regular route, charging the same fare as the street railroads. Perhaps the panic is a bit early. Perhaps regulation will come in due time. Perhaps "jitneys" will yield a good public revenue. Possibly there is room for street cars and "jitneys" alike. New York and other great centers of population have to have sub-way transportation. There has often been talk in San Francisco of the need of "elevated" systems. The "jitney" solves this. Also it provides a charming market for old autos. Further it creates a grand gasoline demand, and a brand new one, so the gasoline marketers can hail the "jitney" with joy. "It's an ill wind that blows no one good." And as a man remarked on the street the other evening—

"Yinniny Yee, but them yitneys iss all the yip! Yee vizz!"

Suggestions, Comment, Invited.

What do you think of The Derrick, Mr. Reader? Why do you subscribe for it? If you don't subscribe, why do you read some one else's copy? This is an interesting matter to the publisher of the Derrick. He wants to know what interests Derrick readers and what they can dispense with. What does the Derrick need to make it more interesting to you personally? Don't be afraid to tell it in a letter. And if you like the Derrick as it is, don't be afraid to say that: wreaths should not be reserved until the day of the funeral. Please remember, however, when you write your letters to make your suggestion within the range of possibility; the Derrick cannot alter its size with a million-barrel-per-month over-production; it can only take your suggestion as regards the character of the matter published.—Lastly, do it now!

* * * * *

What If Not Silly?

If the gentlemen who screamed that Congress should "publicly investigate America's preparedness for war" were not of the silliest character imaginable, were they not next to traitors? Consider the idea of PUBLIC discussion of the War Department's PRIVATE information, merely to advertise themselves! Giving to the "enemy" in advance all the secrets of the national defense! For a PUBLIC discussion means that the whole world is informed exactly of our preparedness or unpreparedness for war. Those gentlemen will never need to buy rattles for their babies; all they need do is shake their heads a particle; that'll be enough. "Goodnight!"

* * * * *

Do It At Home.

Instead of this country being the Handmaiden of the rest of humanity, the Derrick is "strong for" a close-at-hand view of some might lively "handmaidening" right here in the good old U. S. A. Bread riots are reported dangerously near in many big Eastern cities because of unemployment, for one matter, and the tremendous exportation of all food products, raising prices beyond the reach of the poor man's purse. Both due to the blessed glorious war. From abroad comes the report that Belgium must have around \$7,000,000 monthly to keep the population from starvation. The most heartrending appeals are being made to Americans to put up this sum to save them. But already America has sent a tremendous amount of produce and money abroad for the Belgians and here at home, with prices away up, there are claimed to be EIGHT MILLION PEOPLE without any income, unable to buy food, unable to obtain work: UP AGAINST IT as the direct result of that self-same precious war. Why do our great men not organize to carry on their business in such a manner as to provide for the utmost possible number of people, right up to the limit of their incomes to so provide? Are the poor Belgians more to be kept from starvation than our own poor, suffering from the same cause? Why no tremendous efforts, with press agencies to back them, to raise millions here? Doesn't it look like politics? Doesn't it look as though the big interests were afraid if they helped the American war victims by giving them work there wouldn't be sufficient dissatisfaction at the end of 1916 to cause a revulsion of feeling sufficient to overthrow the present administration? Here is President Wilson urging a national bureau to hunt jobs for the jobless, with no backing whatsoever on the part of our great "philanthropists." Why?

The Escape Valve

Devoted to the Relief of Over-Oiled Feelings

We Polished Our Guns For Four Decades

We polished our guns for four decades
We hung all our flags on the wall;
We never quit waving the bloody red shirt—
And we said we should win—or should fall!

We called on our Nation's dead heroes
To take note that their names did not rust;
And we trained every man-child born into our
land
To win battles—or change quick to dust.

We trained up our soldiers four decades,
And when they were able to shoot,
We turned them like lightning upon the dazed
world,
To bring home Imperial loot!

On, on with the war game forever!
'Tis king's sport and royally mad!
Though the mothers and daughters, the wives
and the maids
Be, Oh, So unspeakably sad!

Let us turn on our unprepared neighbors;
We know they've no feelings like us;
So we'll dangle their heads on our sabers,
In spite of their protests and fuss!

We've a perfectly glorious army;
Our units are trained up so well
There's never a man in a single brigade
Who would stop fighting this side of hell!

For we've trained up our soldiers four decades
And now that they know how to fight
We find that we can't hold their war madness
down—
And so, for us all, it's "Goodnight."

* * * * *

The Oil Men's Christmas Reception In the Lobby of the Palace Hotel.

All Christmas week delighted gatherings of oil men were to be seen hob-nobbing in the various joy-nooks of the Palace Hotel. Of course, there were particularly desirable places where the gatherings were thickest; for instance, inside the Palace's westernmost entrance on Market street where, standing before the beautiful painting by Maxfield Parrish, "The Pied Piper", many healths were liquidated from glasses of all descriptions, because, for the long legal fight was over.

The frosty and curly pow of Guy Salisbury, the commanding form of "Joe" Errington (R. J. Mackenzie's representative), cheerful B. D. Townsend, former U. S. Attorney in the oil land suits and others well known to the oil fraternity were constantly going and coming in a never ending human stream. And what was all the satisfaction about? Nothing less than the settlement of the United Development-Oil Exploration companies interest in a large acreage of Coalunga oil land, which terminated in a lease from the S. P. Co. to them of 440 acres at a reasonable figure, making all parties happy. Should the Government win its suits against Southern Pacific, the

Oil Exploration interests would not suffer, and, as matters stand, all is satisfaction. So it was nothing to be remarked at that they relaxed themselves. It would have been amazing if they hadn't and they are all such "jolly good fellows" that everyone congratulated them on the end of their troubles.

HENEY'S PAEAN OF VICTORY

On the Recent Pipe Line Decision of the Railroad
Commission

(IMAGINED)

Hark! the rolling drums are sounding!—
Beating out the glorious victory
Of the Great Graft Prosecutor!
He, who stood alone for Justice
To the Independent Oil Men.
Who are really independent,
HE has triumphed, HE has conquered!

Every voice was raised against him
And his "Program Socialistic!"—
Every voice save that of Freedom
Owned alone by independents!
Hark the rolling drums are sounding,
Beating out MY glorious victory!

Yea, the Interests were against me;
Lewers, Weil and all the Cohorts
Who hold forth at length in Court rooms
For the rights of Vested Interests,
Spake against the only project
That could aid the Independents
In their fight for better treatment:

Yea, they called the Pipe-Line Measures
Anarchistic and Unlawful—
As in conflict with the mighty
And Supreme Law of the Nation:
As a thing "Unconstitooshinul!"

Hah! Their minds are sharper now'days!
Now they know that Francis Heney
Knows the Law and How to Use It:
How to Frame It, how to Hang It
In the Constitution's Borders!
How to tie their Interests safely
By the Hands of the Commission
With its "Powers Diabolic,"
Guaranteeing "The New Freedom"!

Sing a song of Honest Business—
Business minus throttle clutches,
Business open and above board
Fair alike to Every Interest
Great or small, so long as HONEST!

Hark! The rolling drums are sounding,
Beating out the Glorious Victory
Guaranteeing the New Freedom
From the Pipe Lines' Domination!
I, the Great Graft Prosecutor,
I, who bore the brunt of battle
For the struggling Independents,
I HAVE TRIUMPHED, I'VE DELIVERED!

Pacific Progress

Not the Progress of the Pacific States Only, But in Some Measure, the Progress of the ONE Great Pacifically Inclined Nation of Today



Small Portion of What 1915 Brings to San Francisco, Shown Above

The din of just about three million cowbells, horns, sirens, auto-honks and human joy cries ushered in the most wildly happy new year's day California has ever known. Promptly at the passing of the old year President Wilson pressed a button and the San Diego Fair was officially opened for a straight run of one-year. The scenes in San Diego were easily paralleled in San Francisco—if not surpassed. This era of rejoicing has a double significance: The reconstruction of the city in a period of less than nine years from its annihilation by earthquake and fire, and, the celebration of the opening of the Panama-Canal.

On January 9, the first big 1915 jubilation took place in the Exposition-Civic Auditorium, when that magnificent building was officially opened with a grand ball such as has never been held before in the history of the West. There were more than 17,500 paid admissions, at that dedicatory masquerade ball, with net receipts of \$20,000. Mayor Rolph made a brief, excellent speech, ending with: "On with the dance! Let joy be unconfined!" And it was. Then C. C. Moore, President of the Exposition spoke in the same vein and gaiety reigned.

The Exposition closed officially at six p. m. on Sunday, January 10, for a period of forty days, closing with an enormous attendance—upwards of 60,000 people. The pre-Exposition period brought in to the Exposition company from paid admissions and concessions percentages the big sum of \$679,383.37. This is \$471,000 more than the St. Louis pre-exposition days realized for that event. The last great "palace" of the Exposition (Fine Arts Palace)

was completed on Dec. 28, and officially turned over to the management after an expenditure of \$500,000. So the great year is here at last: And great events, including the arrival of America's most powerful battleships, the President and in all likelihood Congress, and a host of congresses of different natures are all well on the way towards San Francisco.

The California Inland Waterways Congress will convene in San Francisco at the Civic-Exposition Auditorium March 25, 26 and 27. This is one of the most important of all the congresses to be held here this year.

* * * * *

U. S. Government has inaugurated a daily service paper to promote foreign commerce, named, the Daily Commercial report, published by the Department of Commerce.

* * * * *

The war hurt almost every mineral industry in the United States in 1914, gold mining being about the only mining industry to be boomed as a direct result of the conflict. For a record of the other industries, see our review "U. S. Mineral Production Notes" elsewhere in this number.

* * * * *

State of Wyoming Leases Oil Land—The State Land Commissioner of Wyoming has leased to the Midwest Oil Company a section of oil land in Salt Creek field from which \$6,000 a month royalty will be received for five years, or \$350,000, using \$1.25 per bbl. as a basis of valuation.

* * * * *

Standard Oil of California's annual meeting will take place at the Company's plant at Richmond on Feb. 20.

Fifteen Different Kinds of Progress

New Australian Trade.

On January 9 it was announced by the special envoy of the Australian Government, W. H. Shoobridge, that as a result of the war Australian business which formerly went to Germany has been brought to the United States—mostly to the West—and the new business he personally has arranged for this year (1915) will total FIFTY MILLION DOLLARS. This business heretofore has been transacted almost exclusively with Germany and Austria. Thus are these two great commonwealths—U. S. and Australia—brought even closer together than heretofore.

New Motor-Vehicle Business

As a result of the sale of every kind and description of horses for war purposes, throughout this country, the automobile trade is being boomed by many million dollars, when taken in connection with motor implements for farm use.

Money for New Projects

Maturities of Pacific Coast corporations which come due this year will total \$32,195,700. This amount is liberated to note and bondholders of nineteen great corporations, all successful, going concerns. This bond money will be available for other projects, private or public, and will go towards forwarding the business of the country.

Re-employment

The Southern Pacific Company announces the re-employment of 6000 men laid off during the past six months or so. This means spending money on improving the service in every branch: It is progress.

Gold Booming

The gold mining industry throughout the West has been given a decided impetus by the war and many rich strikes are reported. One car of ore recently shipped from the Cresson mine, Cripple Creek, Colorado, was worth ONE MILLION DOLLARS, and many more earloads are in sight. Gold mining in California, too, is in better shape than for years past.

Steel Business

U. S. Steel Corporation's business is indicated by a total tonnage of unfilled orders at the end of 1914, amounting to 3,836,643 tons. That's business; business is progress.

California Farm Opportunities Broadened.

The scope of the plan, proposed some time back, to have Belgians come to California and farm the vacant lands at especially easy prices, has been enlarged to include even Americans and native sons who might like a similar opportunity; and the "speculative element in the land's purchase has been squeezed out." Also, a system of "rural credits" is being urged and the Australian method of actually doing something for proposed settlers is being considered with brutal frankness!

American Exports

America exported products valued at \$979,190,906, during the first eleven months of 1914, in spite of the troubled conditions of the last months of the period. The loss in trade, as compared with 1913, was in excess of \$150,000,000. The progress consists in having the loss kept to this amount only.

Alaskan Progress

Real progress in Alaska is the result of the administration bill freeing the country from the old time restrictions, and the preparation for the construction of the \$35,000,000 railway to be built and operated by the gov-

ernment. In the past twenty years Alaska has sent \$300,000,000 to this country, receiving almost nothing but administrative kicks in return. Now a great development is on the territory, railroad, agriculture, vastly increased mining and the innumerable advantages and comforts of civilization being brought to their doors.

Truth Told—Officially

California Commission on Immigration and Housing has actually had the backbone to officially declare the truth, to-wit.: that California is already over-stocked with jobless people, and that Easterners anxious to work had better stay where they are! "There are thousands more men than jobs" is the gist of their (the commission members') report. They might have added the same of women, ten thousand of whom have flocked to San Francisco alone, to fill 1000 jobs at the Exposition.

Copper Industry's Progress

American copper sales in November are estimated at from 100 to 150 million tons, sharply reducing the surplus stocks, and benefitting the industry in proportion.

Shipping Stand's Progress

England concurs in U. S. Shipping stand: "nuf sed."

Farming Progress of Nation

The greatest farm year in the history of the nation was back-sliding old 1914: The value of the combined farm products of the nation was almost a full ten billion dollars, an increase of \$83,000,000 over the 1913 valuation. Crops in 1914 were valued at \$6,044,480,000; animal products and farm animals sold and slaughtered, \$3,828,456,000. The corn and wheat crop were the most valuable in our history. The cotton crop dropped in value fully \$300,000,000; the war did it. On the whole it was the biggest year the nation has known, agriculturally.

State Legislative Progress.

Legislation of a progressive character is promised both nationally and, particularly, in California. California's proposed legislation:— 1 Revision of corporation taxes upward. 2. Provision for non-partisan election of all state officials (bitterly fought). 3. Establishment of a system of rural credits. 4. Creation of free labor exchanges. 5. Prevention of misuse of initiative, referendum and recall. 6. Public land disposal. Other matters being urged are: Non-leasing of California land to Orientals; prohibition of the use by the police of "third degree" methods; abolishment of capital punishment; jury trial for contempt of court; anti-injunction law similar to that in Massachusetts; expansion of operation of workmen's compensation act; amelioration (or emasculation of Blue Sky Law.

National Legislative Progress

The national legislation centers about the Water-power bill; the Government Ship-Purchase bill and the Immigration bill. The Water-power bill opens the locked up energies of the mountains to companies and individuals, under government supervision. The ship purchase bill would provide a national merchant marine to carry our products to the ends of the earth at reasonable charges. The immigration bill is similar to the one vetoed by President Taft on account of the literacy test.—Fifteen different kinds of progress.

Thos A. Edison says (Jan. 14): "The wise man will prepare now for the boom in trade that we will soon experience, and which will be tremendous after the war."

Jas. A. Farrell, President of U. S. Steel Trust, says: "I expect steadily sustained improvement during 1915."

U. S. Mineral Production Notes—Showing Various 1914 Mineral Outputs and Effect of the War On American Business In This One Branch

(Geological Survey)

Silver Output in 1914 is estimated at \$37,225,000—"a high mark. Michigan Coal Output In 1914 was about same as for 1913, amounting to 1,231,786 short tons, with general producing conditions good. Gold Mining in 1914 increased considerably, the reason being the war. Gold is always in demand in war times, and there is no end to the market. The U. S. output for 1914 was fully \$4,000,000 in excess of the 1913 value, totalling approximately \$93,000,000. The Alaska gold yield increased \$300,000., the Arizona yield \$500,000, the California increase was more than \$700,000, while Colorado's increase was in excess of \$1,500,000. Gold mining throughout the country was in a very healthy condition and the industry has received such an impetus by the war as probably nothing else could have given it. California remains the premier gold-producing state of the country. California's copper output in 1914 amounted to 34,000,000 pounds, about 560,000 pounds less than for 1913, war causing decreased yield. This State's zinc output increased 100 per cent in 1914, the total poundage being placed at 2,107,000. The lead output also increased almost 100 per cent; from 3 1-2 million pounds in 1913 to 6 1-2 million pounds in 1914. The production of Iron Ore in the U. S. this year past fell off one-third the estimated total long tonnage being 42,500,000. Idaho's mining year was an excellent one, the total mineral production being valued at \$24,141,000. Mississippi Valley Coal operations were generally less satisfactory for 1914 than during 1913; result of war. Competition was frightful and prices, of course, correspondingly depressed. "War is—you know" say operators—only they say it point blank. The Oregon Metal Mining Industries suffered in 1914, the gold, silver, copper and lead outputs declining. Of the total gold output of \$1,600,000, Baker County produced 84 per cent. Tungsten Ores in U. S. in 1914: production amounted to 990 short tons, the smallest output since 1908; decrease due to the war. The value of the tonnage ranged from \$6.50 to \$9.00 a "unit," according to the percentage of "Tungsten trioxide" in each short ton. U. S. Output of Rutile in 1914 totalled 94 tons, valued at from \$50 to \$400 per ton, mined only in Roseland, Virginia. Rutile is used in electrodes for arc lamps; for making ferrotitanium for use in cast iron and steel, and, in ceramics and chemicals. Alaska's mineral output in 1914 had a total valuation in excess of nineteen million dollars; around \$19,250,000. The gold output was \$15,900,000, an increase over the 1913 value. Silver and copper outputs decreased—result of war. Portland Cement in 1914: production fell off nearly 4 million barrels. This is the first time in the history of the industry that the output of any one year has not been greater than that of any preceding year. The output in 1914 totalled 88 1-2 million barrels. Rocky Mountain Coal Mining in 1914: In all but one of the Rocky Mountain States the production was less than in 1913, the single "exception" being New Mexico, where the increase was from 15 to 20 per cent. Coke output here, however, decreased 30 per cent, result of closing down of copper smelters (due to war). The other Rocky Mountain coal producing states had troubles of their own, such as the Ludlow miners war, superinduced by strikes, followed by the various resorts to arms, and like pleasant events. It was a beautiful year all around. Washington's Combined Gold, Silver, Copper and Lead Output in 1914 totalled in value less than \$800,000; a falling off of 24 per cent.—"Let there be peace!"

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Interesting Developments of Recent Date

Water Protection Legislation. State Mining Bureau announces that "the preliminary discussion of legislation to aid in conserving against water damage was successful. Men representing the largest corporations harmoniously discussed the subject with small operators." The meeting was held in Sacramento and as a result views of the operators will be incorporated in the proposed legislation. Another meeting is to be held in the State Mining Bureau on January 21, which will be too late to report in this issue of the Derrick.

Calgary Oil Companies.—Twenty-three oil companies are drilling in the Alberta fields, with 24 drills going down. Though the boom is dead (for which Calgary as a whole is very thankful) and the war is on, these companies continue their attempts to "deliver". There is sadness, however, by every holder of Calgary oil stocks—scarcely one but has dropped to a tenth of its boom-days price; most of them have dropped more than a tenth, the majority being salable at no price whatever. However, the real operators, the backboners, have faith, and faith works wonders.

Canada Lawmakers' Decency.—The "Western Standard," Calgary's excellent weekly, states that "Orders in council appropriating \$1,000,000 for seed grain to assist farmers in the prairie provinces and \$125,000 for necessary supplies to meet winter needs of destitute settlers, have been passed at Ottawa."

Mrs. Teresa Bell was given a clear title to the well-known Bell estate of 14,000 acres in Santa Barbara County, valued at \$200,000, on January 11, by a decision of the U. S. Circuit Court of Appeals, which affirmed the supreme Court of California's decision in Mrs. Bell's favor, and against the U. S. Oil and Land Co. The latter company appealed some time back. The suit had as its basis a supposed clouding of title back in 1874 which the U. S. Oil and Land Co hoped to profit by.

Three Suits by U. S. Government vs. the Southern Pacific Company were filed on the 8th of this month, title to Kern County lands being the subject of the controversy. These suits are a part of the series of actions by the Government to recover the lands which the S. P. now holds, according to the Government's complaints, through false affidavits made at the time the title was given them. Same old controversy.

Campaign Against Gasoline Short Measures has been inaugurated by the State Superintendent of Weights and Measures, who has ordered the CONFISCATION of all short-measurements, self-paying gasoline pumps. The war against these was caused by the discovery that autoists were being buncoed out of 1 quart of gas from each gallon paid for, in the state capital. Lively purchasing of new measuring machines, and tinkering of old, is in progress. So go the grafters.

Motor Shps.—The Danish motor ship Malakka, owned by the East Asiatic Company, ran on the rocks of Cedros Island around the end of the year and was a total wreck. Very little of the ships portable cargo could be saved, and the loss, all told, will approximate \$1,000,000.

Thick weather was the cause of the wreck. Another motor ship will soon be running into San Francisco; her name is "San Francisco." The "San Francisco" is one of the three new motor ships, the other two being the "Pacific" and the "Kronprinz Gustav Adolf," belonging to the Johnson Line and running between Scandinavian ports and San Francisco. These vessels have a capacity of 7000 tons each.

Dutch-Shell Pipe Line from Coalinga to Martinez is being constructed with systematic despatch. A tank farm at Martinez is now about to be constructed as an adjunct of the refinery and pipe line. It will consist, to begin with, of twenty 55,000 barrel tanks, if reports are accurate.

Agency to Incorporate Soon?

It is said here in town among "insiders" that the Independent Oil Producers Agency will in all probability cease to be ere the close of 1915, and that in its place a gigantic oil producing transporting, refining and marketing corporation will do the business now carried on under so many separate operating managements. The basis on which each company is to go into this gigantic merger is declared to be a strict assets-valuation proportion. It is declared a known fact that the various Agency companies are being "signed up" to enter the merger, at a comparatively rapid gait. A more or less secret meeting was held in San Francisco recently, at which the details are reported to have been very carefully discussed.

Death of L. V. Harkness, long associated with John D. Rockefeller, and the second or third largest shareholder of Standard Oil Stocks, has taken place. Mr. Harkness leaves a fortune of upwards of thirty millions of dollars: same will be distributed among a considerable number of legatees.

That terrible Italian earthquake may have claimed almost as many human victims, and have wrought as much damage as any lively day of fighting in the war zone further north! It's a small event as compared to a single day of war, especially as there is this to be considered—no human hand or mind had to do with setting it in action.

Good Prospect for sale

Frank La Vine, 131½ N. Broadway, Los Angeles, offers for sale 165 acres of excellent prospective oil land in the Parkfield District, Monterey County, close to drilling operations. One water well on this property contains oil showings. Further information will be furnished upon request.—Adv't.

DIVIDEND NOTICE

The German Savings and Loan Society—526 California Street, San Francisco.—For the half year ending December 31, 1914, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, payable on and after Saturday, January 2, 1915. Dividends not called for are added to the deposit account and earn dividends from January 1, 1915.

Adv't.

GEORGE TOURNY, Manager.

CALIFORNIA CONCENTRATES

The Mascot Oil Co. has signed its production at 37 1-2 cents, to the Standard Oil Co. — The Seaboard Oil & Transit Co. has done the same. The annual meeting of the latter Co. was held on schedule, Jan. 9, but the details are not yet to hand at this writing. — Western Union Oil Co., Santa Maria field, has completed well 53, output about 300 bbls. A dividend of \$1.00 per share (the 72d), has been declared. — Union Oil Co. Tanker "Lyman Stewart" is in commission carrying Santa Maria oil from Port San Luis to Oleum, Contra Costa County; capacity of tanker 60,000 bbls., speed 11 knots. During January the Union will dispatch one \$150,000 cargo of Kerosene to the Orient and one \$250,000 cargo of gasoline (via Panama Canal) to England. The Union has laid off fifty per cent of its Kern River employees. The Union's subsidiary, Producers Transportation Co., which pays the Union around 6 per cent annually on stock and bond issues aggregating ten and a half million dollars, is reported to have done a most satisfactory business this past year. — Pinal Dome Refining Co., is marketing 12,000 gallons of gasoline daily, according to a Santa Maria report. The company continues to expand on high class business lines, the latest evidence being a fine new supply station at Haywards, between Oakland and San Jose. This is one company that fails to complain of the troubles of the oil man. It conducts a general business the same as Standard Oil or Union Oil Co., and it delivers the goods. — The Los Angeles "Petroleum Refiners Association", which has as its object the maintenance of the standard of gasoline products of its members all small independent refiners, is seeking a city inspector to assure honest treatment of automobilists by garage owners selling the products of the refiners association. The garage owners have been doping the gas. — National Pacific Oil Co. has elected as president, Captain Jno. Barneson. On the board are very well known and highly successful oil men, such as T. A. O'Donnell, J. M. McLeod, and

others. The new regime will doubtless make the corporation a success. — United Oil Co. has declared a one-half cent dividend, payable Jan. 20; which will distribute \$10,000. This is the first in three years and opens 1915 in the proper manner. — Combined Oil Co. holds its annual meeting Jan. 19. A large attendance is being looked forward to by the management, who expect to show the shareholders some of the difficulties overcome. Los Angeles is to have a city asphalt plant. Even cities are getting into the oil business these days. Against big corporations like Los Angeles, what chance has the little fellow?

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Growth of California Oil Industry the Past Five Years

TABLE COMPILED FROM STATISTICS PUBLISHED ANNUALLY IN THE DERRICK

(Production, Consumption and Surplus in Barrels of 42 gallons each)

Year	Production	Consumption	Surplus	Per Cent Used	Per Cent Stored	Wells Completed	Wells Prod. Dec. 31
1914	103,623,695	92,967,598	10,656,097	89.71	10.29	421	6,106
1913	97,867,183	97,083,728	783,455	99.20	80	575	5,870
1912	90,074,439	83,409,630	6,664,809	92.60	7.40	769	5,625
1911	83,744,044	72,960,371	10,983,673	87.09	12.91	800	5,138
1910	77,697,586	66,172,373	11,525,213	85.16	14.84	1019	4,692

* * * * *

Too much oil: That's what the table shows.

Unrestricted competition, efficiency of the operators and the amazing productivity of California's oil fields have all contributed to the big surplus.

Our table has been compiled in such a manner as to tell its own story with but a few explanatory words. As regards the surplus it should be understood that the 10,656,097 barrels shown to have been stored is but part of what could have been stored, as during the entire year there was a shut-in production estimated at from 16,000 to 20,000 barrels per day—at the least, 6,440,000 barrels additional surplus possible of extraction. The increase over the 1913 output, even with this amount shut-in, was 5,756,547 barrels of oil. Owing solely to the war, consumption decreased 4,116,130 barrels. With normal conditions restored, it is almost superfluous to say that business will be in vastly better shape.

* * * * *

California Oil Situation at Beginning of 1915

The situation at the beginning of the year, as shown by Standard Oil's figures, was as follows:

Daily production was down to 250,827 barrels.

Daily consumption (or shipments) averaged during December only 219,314 barrels.

Daily over-production for the month of December was therefore 31,513 barrels. Shut-in production to the amount

of 20,000 barrels daily (estimated) brings potential daily average overproduction to 51,513 barrels.

The December figures show that month to have been the smallest production and consumption month of 1914. The big decline in the 1914 market began with the first effects of the war—with the month of September. For the first eight months of the year the average monthly shipments totalled 8,410,000 barrels. For the last four months the average was only 7,040,000 barrels per month, a shrinkage of 1,370,000 barrels monthly, or approximately 46,000 barrels daily.

The extremes between high and low monthly production were reached in June and December, respectively. The average daily output in June was 302,400 barrels, the highest average in California's history. This tremendous production exceeds the December daily output by 51,573 barrels.

With 6106 wells producing the output is not likely to diminish. The probability therefore is that production will continue to go into storage at the same rate (at lowest) for December, if there is no radical change in general conditions. Only 6 wells were abandoned in December, while 26 were completed with an initial daily output of 8,074 barrels. As there were 133 wells drilling the prospect is rather for increased than decreased production for the first few months of this year.

* * * * *

Nation's Petroleum Exports in 1914—All Records Broken

The figures of the Bureau of Foreign and Domestic Commerce place the petroleum exports from this country in 1914 at 2,224,248,324 gallons of all classes of oils. The figures show a gain of 115,882,880 gallons over the 1913 shipments to foreign countries. The increase comes as a result of the vastly greater demand for fuel oil and gasoline. Crude exports decreased heavily because the treated fuel oil is superior to crude. The demand for illuminating and lubricating oils would probably have brought the shipments up to the 1913 exports, if it could have been entirely supplied; but the war cut off a considerable portion of the market and in addition there was a scarcity of tankers to carry the products demanded.

Returns for 1914 exports were smaller by \$8,792,170 than

for the year previous. The figures are: 1913 returns, \$147,174,164; 1914 \$138,381,994. With all the figures available the reader needs no further comment:

Table shows exports of crude petroleum and products from the United States for three years past, ending December 31, 1914.

	1914	1913	1912
CRUDE:			
Gallons	123,590,451	184,991,661	172,822,223
Dollars	4,927,525	8,174,767	6,373,771
ILLUMINATING:			
Gallons	1,008,403,576	1,118,096,475	1,023,681,414
Dollars	63,942,789	71,935,201	61,918,491
LUBRICATING and PARAFFIN:			
Gallons	190,888,017	205,825,151	213,559,784
Dollars	25,916,336	29,289,805	27,860,743
NAPTHAS, GASOLINE, ETC.:			
Gallons	199,754,004	178,971,302	175,089,771
Dollars	24,437,062	26,927,474	19,364,032
RESIDUUM, GAS OIL and FUEL OIL, ETC.:			
Gallons	701,612,276	420,480,849	259,392,044
Dollars	19,158,282	10,846,917	6,357,951
Total Gallons	2,224,248,324	2,108,365,444	1,844,545,236
Total Dollars	138,381,994	147,174,164	121,874,988

* * * * *

The Shareholders Responsibilities.

The man who "meant to vote but just somehow didn't get to it" is the same person who howls loudest against the officials who were elected, if anything goes wrong. He is the one who talks volubly about the rights of citizens, degeneration of the country's moral standards, vileness of politics and, so on, ad infinitum. But, every word spoken is a direct condemnation and impeachment of himself. He has left his moral, civic and national duties to be performed by someone else and "someone else" has done it in "someone else's" usual way.

The same thing holds true of the shareholder. If the shareholder pays no attention to the direction of the business in which he has invested his money, there is always a possibility that "some one else" will take advantage of his apathetic attitude. Shareholders positively should keep in touch with the management of the company's business; should know how much oil is being produced, how much it costs the company to produce it, what the company actually gets for its oil, what prospects the company has for ultimate success (if it is not a dividend paying corporation) who the officers are, their experience in the business entrusted to them, and the general condition of the business in which they have invested. The shareholders who have this information at their disposal usually have more success in their investments than those who trust to luck and "never think of thinking for themselves at all." One of the ways to keep informed of the condition of oil companies is to subscribe for an oil magazine. If that magazine or paper should only make one report per annum on the company in which the investor is interested, still it is worth while to the investor. The knowledge of an annual meeting means much to him. The loss of a well, or the bringing in of a good producer, is worth-while information. A change in management is something he should know of. The general conditions in the industry mean so much to him, and have such a direct bearing on his ability to realize on his investment in case of need, that to be without information is to be at a decided disadvantage—one wholly disproportionate to the small amount necessary to inform himself through the medium of some oil magazine or paper. It is really a shareholder's duty to himself and to those dependent on his success, to keep as closely in

touch with his investment as possible. When he buys oil stock he has assumed a responsibility that sometimes develops into a liability. If he were well informed on the conditions governing his investment, or but sufficiently informed to wake him from that apatheite attitude, it would save him (collectively) many thousands of dollars. For this information we recommend The Derrick.

* * * * *

Interesting Success With New Cementing Method

The method of cementing wells to shut off the water, which Standard Oil chemists have been working on for a long time past, has within the last few weeks proven successful in two different sections of the Valley fields, making a total of four successful jobs in three separate districts. The method is called, for want of a shorter name which will at the same time distinguish it, the "Hydraulic-Line Cementing Process," and about all that is thus far known of the method is that a chemical preparation of lime is introduced into the wells to be cemented by the well-known Perkins Process. The constituents of the line preparation have not yet been made public property. The time taken to cement off the water in the wells where the process has been successful was about the same as is taken by the method in general use. It is hoped, however, that when all the experimenting is done, the process perfected will be a great time saver; this is one of the ends very much desired by the originators.

To date, Standard Oil has used the process of its invention with complete success in two wells on the Kern River Front, where the old methods failed; and two other companies, the Midway Premier Oil Company and the Alaska Pioneer, have very recently completed successful jobs in their wells on the McKittrick Front and the North Midway field.

Very little is known of the new method because it is yet in the experimental stage. The work done thus far does not warrant a complete statement as the company feels that it may be greatly improved upon as the experiments progress. The Derrick's representative had an interview on this matter with the originator of the method, who said: "In due course of time, when complete success is assured, the public will be made acquainted with the details of the method ultimately developed. It is anticipated that the process finally worked out will prove a real genuine advance in the practice of well cementing."

The Derrick's information as to the successful use of the new method in the Midway Premier's McKittrick Front well and the Alaska Pioneer's North Midway well, was secured from Mr. J. H. Dearin, of the Caribou Oil Mining Company. Mr. Dearin stated that the Caribou Oil Company purchased a lime mixture from the Standard Oil Company and had sold part of it to the Alaska Pioneer, which introduced the mixture by the Perkins method. The general success of the method is not assured yet, as solidification depends largely on the chemistry of the soils and waters punctured by the well in which the job is to be done. In view of the fact that the process is considered experimental by its originators, though successful in the instances cited, the difficulty of eliciting further facts may be readily realized.

Coalinga Items

Marathon Oil Co., section 13-25-18, has resumed drilling at 2300 feet. Pipe free. Formation brown shale; some oil and considerable gas.

Pluto Oil Co., operating N. W. quarter of section 19-25-19, Devils Den, has passed into the hands of Hanford men.

Petroleum Developments in Foreign Countries in 1914---

John D. Northrup, of the U. S. Geological Survey, gave out a statement on foreign developments late in January from which the following interesting facts are taken:

Development in proven areas was greatly curtailed throughout the world during the latter half of the year as a result of the war, but during the first six months the activity which characterized 1913 continued unabated.

Canada. "The productive fields of Ontario and New Brunswick continued to furnish the declining petroleum output of the Dominion." Development work to offset the decline was successful only in the Belle River field, Ontario. Good gas wells continue to be found in the Tillbury district, Ontario. In Alberta the big rush following the Dingman discovery, "failed to demonstrate the true extent or value of the field before the end of the year. In northern Alberta the lack of transportation facilities retarded the development of the promising oil strikes of the Athabasca Oils, Ltd., near Fort McKay." In British Columbia encouraging oil indications in the valley of Flathead river and in the vicinity of Revelstoke, and at Pitt Meadows, resulted in prospect drilling. In Saskatchewan drilling was done at Moose Jaw, Regina, Bauteford, Saskatoon and Souris Valley. Evidently no commercial oil secured.

Mexico. Great activity prevailed early in the year, especially at Panuco and Topila. The big features of the Panuco field was the Dutch-Shell's (Corona Oil Co.) gusher, which came in on Jan. 11 and started all the drills to pounding, while, "lack of adequate storage facilities tended to hamper developments greatly." In April came the trouble resulting from the war conditions and development "was abruptly curtailed." While no great damage was done to the petroleum interests the lack of a stable government held back development work. Towards the close of the year things looked better and work was to some extent renewed. Noteworthy among oil fires was that which "raged about the famous Potrero del Llano No. 4" of the Mex. Eagle Oil Co., which has burned steadily from Aug. 14 to date. Lightning caused the fire. The Panuco field was extended to the southwest and the Topila field to the west. Indications of a new field were developed near Campeche, State of Campeche. The Standard Oil Co. installed a 4-still plant at Tampico, and a 25-mile railroad between Tampico and Panuco oil field was started by the Tampico & Panuco Valley Tramways Co.

Central America and West Indies. In Honduras the Honduras Oil Co. is reported to have obtained concessions in the departments of Atlantida, Yoro and Coneagua. The Government of San Salvador has granted the exclusive privilege of exploiting the mineral resources of San Salvador to Leon Schlessinger, a native of Austria-Hungary, for thirty years—royalty 25 per cent. **Cuba.** Drilling continued near Cardenas. **Barbadoes.**—Nothing was done. **Trinidad.**—Marked increase in production over previous years. Meager storage facilities and European war curtailed operations during latter half of years.

South American Countries.—Colombia: Gas and oil discovered at Tubare, near Barranquilla, important report;

"indicates the development of an important oil field in close proximity to the Panama Canal." **Ecuador:** Investigations carried on by a Dutch syndicate "suggest possible development in near future." **Peru:** Nothing notable in proven fields. Mild increase in output necessitated tankage at Zarritos. **Bolivia:** Geologic investigations show considerable area of prospective oil land south of Sucre. Tests likely. **Chile:** Santiago companies to test long known possibilities. **Argentina:** In the Comodoro Rivadavia district, 12,355 acres has been reserved by government and 865 acres are being "exploited by the State." **Venezuela:** Work was continued by Caribbean Pet. Co. on the east coast of Lake Maracaibo in the shallow-sand field opened late in 1913.

RUSSIA.—"On Apsheron Peninsula the oilfields near Baku showed a steady decline." An oilfield strike lasting from June 11 to July 31, helped said decline. The war took many oil-field workers, but, these two items aside, "substantial headway" was made by the Baku fields during the later part of the year. **Grosney** increased output, areas being extended. Maikop output declined. In the **Ural-Caspian** area activity was evident in about 40 fields "scattered over an area of 300 square miles east of the mouth of Ural river. Development in Teheleken Island were nominal.

ROUMANIA.—Output as a whole declined. Much activity and notable extensions unable to prevent decline, for which the war is blamed. The Banamoren district was extended and deep sands developed.

AUSTRIA-HUNGARY.—In the Galician fields an extension of the Boryslaw field indicated its connection with Mraznica. Operations curtailed after war started. In Hungary a strike was reported at Marvaor, Nyitra county, Szenice.

SPAIN.—a promising area near Cadiz was examined by the government. A small quantity of oil was found in a salt well near Santander, northern Spain.

PALESTINE.—Some prospecting was done at Makarim.

PERSIA.—Nothing much known.

INDIA.—Operations in the Yenangyaung, Singu, and Yenangat districts, in Burma, were nominal, the search for deeper sands in the first two districts furnished variable results not altogether satisfactory. Wildecatting in Burma resulted in the opening of a promising new field at Indaw, Kindat Township, in the upper Chindwin district.

CHINA.—Under the terms of an agreement entered into by the Chinese Government and the Standard Oil Co., of New York, a joint investigation of the petroleum resources in and near Autin-fu, Shensi, Chengte, and Shihli was undertaken.

JAPAN.—Interest was centered in the Akita oil district, on the west coast of Nippon, near the north end of the island, where on May 25 and September 1 gushers eredit with flows of several thousand barrels daily were brought in by the Nippon Oil Co. In 14 other known oil-bearing localities in Japan no developments of note were reported.

OCEANIA—In Borneo, Sumatra and Java no notable additions to productive area were made. In the northeastern portion of New Guinea (Papua) petroleum deposits were reported near Eitape, and in the southeastern portion of the island oil indications of great promise were found by Australian geologists on the western flank of the Albert Mountains between the River Purari on the north and Yule Island on the south.

NEW ZEALAND—Interest was entered in the Taranaki district, New Plymouth, North Island, where late in the year four wells producing oil simultaneously were believed to indicate the presence of a considerable quantity of oil in the locality. On South Island the Shell interests abandoned a test well at 900 feet on account of the presence of metamorphic slate.

AFRICA: Algeria—Work on the test well of the Algerian oil fields at Abd-er-Rahim was suspended in April, 1914, at a reported depth of 904 meters, on account of parted casing. A second test started in March was located at Messila.

EGYPT—The activity of the Anglo-Egyptian Oilfields, Ltd., resulted in the completion of a number of creditable wells during the year in the Gamsah and Hurgada fields.

SOMALILAND—Promising oil indications were found in British Somaliland on the south side of the Gulf of Aden.

Patents Recently Granted

The following recently granted patents of interest to the oil trade are reported expressly for the California Derrick by Nesbit & Doolittle, Patent Attorneys, Park Building, Pittsburgh, Pa., from whom printed copies may be procured for 15 cents each:

Oil refiner, F. R. Reynolds, Bakersfield, Cal., 1,119,453.
Manufacture of rope clamps for well drilling cables, C. F. Rigby, Butler, Pa., 1,120,539.

Single well cylinder, A. L. Ligon, Lobo, Tex., 1,120,826.
Well drilling bit, W. E. Wetzel, Parkersburg, W. Va., 1,121,573.

PParatus for handling casing in drilling wells, Earl Derby, Coalinga, and H. B. Truett, S Fuaarsoinech. T Derby, Coalinga, and H. B. Truett, San Francisco, Cal., 1,121,718.

Treating oil, J. A. Dubbs, Los Angeles, Cal., assignor to National Hydrocarbon Co., 1,123,502.

Combination sucker rod socket, A. M. Stewart, Toledo, O., assignor to National Supply Co., same place, 1,123,615.

Device for treating artesian wells, Rudolph Conrader, Erie, Pa., 1,123,690.

Locking valve for fuel-oil tanks, W. H. Smith, Cleveland, O., 1,124,965.

Cable cutting tool, O. A. Taylor, Blue Creek, W. Va., 1,124,209.

Well pipe perforaor, A. C. Graham, Oilfields, Cal., 1,125,513.

Rotary drill bit for oil wells, W. M. Keck, Coalinga, Cal., 1,125,553.

Underreamer for oil wells, M. H. Dunn, Los Angeles, Cal., 1,122,907.

Distilling petroleum (2), R. E. Humphreys, Whiting, Ind., assignor to Standard Oil Co., same place, 1,122,002, and 1,122,003.

Means for controlling still-pressure in gasoline manufacture, F. M. Rogers and T. S. Cooke, Whiting, Ind., assignors to Sand and Oil Co., same place, 1,122,220.

Oil well drilling tool wrench, N. T. Shorts, Fern, Pa., 1,122,316.

Tubing catcher and supporter, C. L. Kinney, Coalinga, Cal., 1,123,197.

Railroad Commission's Power Upheld by U. S. Supreme Court

The jurisdiction of the State Railroad Commission over steamship companies operating between ports of the State, even though their vessels "traverse the high seas" in voyaging from one port to another, has been affirmed by the U. S. Supreme Court. At the same time the highest court declared local commerce between the mainland of a State and an island belonging to it, is subject to State regulation.

U. S. Suit No. 7 was instituted by the U. S. Gov't Attorneys in Los Angeles on Feb. 17, against the S. P. Company, Associated Oil Co., Union Oil Co., Standard Oil Co., and thirty-six other corporations and individuals, for the recovery of Kern County Oil Lands. The petition prays the court to cancel all patents to the lands involved and alleges the Southern Pacific railroad has done its utmost to prevent inquiry into the methods of procuring patents to these lands. The Court is requested, further, to estop the defendants from taking advantage of the statute of limitations.

U. S. Oil Lands Leasing Bill—A complete report of the hearings held intermittently from Jan. 7 to Jan. 22 before the Committee on Public Lands, United States Senate, on H. R. 16,136, which bill was passed by the House Sept. 23, 1914, has come to hand through courtesy of Dr. George Otis Smith. As the report is 238 pages thick and of a most weighty nature, it cannot be reviewed. Should any oil man, however, desire to procure the report for a short time, he will be welcome to the use of it. The testimony is of an exceedingly interesting nature.

Farming in Coalinga District—Zed L. Phelps has developed a big water well on his homestead on 3420-15. The abundance of the water will enable Mr. Phelps to irrigate his farm, where he is setting out apricot, peach and olive trees. Now that water has been developed at a shallow depth it is reasonable to expect that sheep ranches will soon give way to orchards and agriculture contribute more largely to the support of Coalinga.

PROFESSIONAL DIRECTORY

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Consulting Geologist and Petroleum Engineer

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Geological Survey's Central Exhibit at the Exposition

The central feature of the United States geological survey's exhibit at the Panama-Pacific Exposition will be two stage-like settings—partly model and partly painted—representing a district in the arid west both before and after development. In the before development scene topographic engineers are at work with their instruments on the headlands, geologists have stripped a bed of coal and are taking samples for analysis, and other geologists are studying rock formations. In the foreground is an automatic river gage; farther back a hydrographer is measuring the flow of the stream as it races by. In the background is a camp and pack train.

The second scene shows the same district after development. The results of the stream gaging have been utilized in planning a power plant that shows in the distance and an irrigation project that covers the valley floor. The coal bed is being mined, an oil field with derricks is under development a sandstone bed is being quarried and mining and milling are in progress in the mountains. A town has also sprung up and roads, railroads and other evidences of civilization abound.

The scenes are illustrative of the basic work of the Geological Survey and also explain why this organization is not even better known than it is. It carries on the pioneer work and prepares the way for the engineer and the constructor; but when these men appear on the ground to erect permanent monuments to their professions, the Survey disappears from the scene and moves on to new fields.

Oil Exhibits at the Exposition—The only oil exhibit the Derrick's representative has been able to discover at the Exposition are the three magnificent displays of the Standard Oil Company in the Palace of Mines and Metallurgy, Machinery Hall and Palace of Transportation. The first named exhibit is the most comprehensive. It includes every department of Oil Industry of California. The Geological exhibit includes a square of about five or six feet which is an exact reproduction of section 36 in the Midway field, as shown by drilling. All the Standard's refined products are shown of course. In fact the Standard has exhibited the oil industry in miniature, displaying everything but the financing. A more comprehensive report of this exhibit will be published at a later date, likewise other descriptions of any other petroleum exhibits.

The California State Mining Bureau will exhibit at the Panama-Pacific International Exposition.—About four hundred square feet of floor space in the Mines and Metallurgy Building will be devoted to case exhibits of California's mineral products. A competent mining engineer will furnish information to visitors as to the extent and value of California's mineral resources.

Plan Abandoned.—The Bureau has decided to abandon its plan to furnish monthly statistics of oil production, consumption, etc. Lack of cooperation by the larger marketing concerns is given as the reason. The Bureau places

last year's petroleum output at 104,000,000 barrels, valued at the well at \$49,000,000.

Oklahoma Geological Survey has issued five bulletins of interest to Geologists and oil men. These are: Bulletin 13, Volcanic Dust in Oklahoma, 40 pages, postage 6 cents; Bulletin 18, Cushing Oil and Gas Field, 112 pages, postage 10 cents; Bulletin 21, the Neva Limestone in Northern Oklahoma 37 pages, postage 5 cents; Bulletin 22, Directors Biennial Report, Part 2, Mineral Resources of Oklahoma, with statistics of production from 1901 to 1914 by C. W. Shannon, 142 pages, postage 10 cents. All the above bulletins are illustrated and should be of great value to those interested. The Oklahoma Geological Survey is located at Norman, Oklahoma.

State Mining Bureau Water Bill.—Senate Bill 916 was introduced January 28 by Senator Maddux, at the instance of the State Mining Bureau, entitled, "An Act, establishing and creating a department of the State Mining Bureau for the protection of the natural resources of petroleum and natural gas from waste and destruction through improper operations in production, providing for the appointment of a State Oil and Gas Supervisor; prescribing his duties and powers; fixing his compensation; providing for the inspection of petroleum and gas wells; requiring all persons operating petroleum and gas wells to make certain reports; providing procedure for arbitration of departmental rulings; creating a fund for the purpose of the act; fixing a fine to be paid by operators and providing for the collection thereof; and making an appropriation for the purpose of this act." That's the title: The bill itself has been mailed to every operator in the State, so there is no need of reproducing it here. The points for the bill are summarized by R. P. McLaughlin, of the Mining Bureau, as follows: The bill is worthy because it proposes (1) to collect the physical facts relating to the water trouble, in order to correct same; (2) Confiscation of property by ignorant or dishonest officials is absolutely prevented in the bill by an arbitration clause, permitting operators to administer the law themselves. This provides that the law shall be administered in a practical manner. (The Bureau is open to suggestions for improving this clause;) (3) money is provided for by direct tax on oil, gas and oil land. Total annual expenditure for the State will be only \$35,000, which is extremely low when it is considered that the volunteer organization in the Midway field alone is at present spending \$10,000 a year, and that the framers of the old Sutherland Bill provided for a maximum tax in the Midway of nearly \$500,000 a year and a \$250,000 tax in Coalinga. The Bureau desires suggestions early as the Bill has powerful backing and will probably pass early in the March calendar.

Good Prospect for Sale

Frank La Vine, 131½ N. Broadway, Los Angeles, offers for sale 165 acres of excellent prospective oil land in the Parkfield District, Monterey County, close to drilling operations. One water well on this property contains oil showings. Further information will be furnished upon request.—Advt.

California Inv

While the Splendor and Beauty of the "Jewel City" Can Be Realized Only by a Visit, These Photos Con-
Exhibits Themselves, They Are an Unsurpassable Collection of the Finest Products Which t



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YACHT HARBOR EXPOSITION GROUNDS



Main Tower or "Tower of Jewels"



Colonnade surrounding Palace

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The Oil Authority of the Pacific Coast

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"Midway Driller" Taft, California.

Entered as second-class matter February 17, 1912, at the postoffice at San Francisco, Cal., under the Act of March 3, 1879.

THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

Opening of the Exposition.

The most beautiful and most important exposition in the history of the nation opens on the 20th of this month.

To gain any idea of the magnificence and grandeur of the Exposition grounds and palaces it is necessary to see them. As for the exhibits, they represent the highest attainments of humanity in every field of endeavor.

The plans for celebrating the opening of this wonderland have by this time been heralded throughout the world, so it is unnecessary for the Derrick to try to give anything in detail. It is sufficient to say that all is in readiness for "the day" that opens the world's most wonderful exhibition of the achievements of Peace.

"California invites the world"! That proportion of the world unable to answer the invitation misses an educational opportunity impossible to convey in words.

What the Derrick wants to say is DON'T MISS IT! COME ANYWAY! GET HERE!

As President Wilson says—"HIT THE BALL!"

California invites the world!—You answer that invitation PERSONALLY.

* * * * *

Don't Put Your Money in Oklahoma Storage

The Uncle Sam Oil Company, by its President, H. H. Tucker, is advertising in the daily papers of California and other portions of the country for money to build storage tanks for Oklahoma oil; to buy oil properties, "at from 15 to 25 per cent of their real value," and for general development purposes as far as is apparent from the wording of the ad. The sum which the Uncle Sam Oil Company desires to raise is \$340,000. The inducement is "an abig stock bonus" with the company's 4 per cent "Registered Sinking Fund Ten Year Notes." The pith of what is offered lies in the following paragraph: "A few hundred dollars now invested in these notes will give you your money back with four per cent and leave your stocks clear, that may go to par in ten years."

With one \$100 note, 4000 shares are offered; with one

\$1000 note, 40,000 shares are offered. A sinking fund provides for the retirement of the notes. The stock MAY be valuable in ten years; nearly anything MAY transpire in ten years.

The Derrick casts no stones at this proposition except to say that anyone can get 4 per cent in savings banks and draw out their deposit any time. There is almost no risk; and the money itself can be had when urgency requires. If the money can be spared for a long time, California State and Municipal bonds offer a most desirable investment, combining positive security and the knowledge that the money is building California. If more than a mere loan is desired, if it is an investment that Californians are being appealed to to make, the proper place for Californians to invest, according to our way of thinking, is California. **There is an advantage in being close to your investment.** State pride—patriotism—dictates local investment. Lastly—there are unlimited opportunities in industries, agricultural, mining and oil enterprises of unimpeachable merit; opportunities in California that demand first consideration. Distance should not lend a false enchantment to investments. The Derrick doesn't believe California oil people will purchase the Uncle Sam Oil Company's notes; if they are in a position to purchase any notes, or make any investments, they know there are big opportunities here in front of them; it is to investors that this presentation of facts is directed, as not a few look to this publication for information of this character.

* * * * *

Germany's Gasoline Supply

Concerning Germany's gasoline supply, German publications which exchange with the Derrick state that gasoline is now being sold by the German Government to the public throughout Germany and that the German Empire "has a sufficient supply from domestic sources and elsewhere"—"Elsewhere" including the Galician oilfields, which "are in the hands of the Austrian Government" and "an abundant supply from Roumania." Thus Germany's gasoline condition is not one of destitution, as is often alleged in European dispatches to this country. In addition it is stated that the benzol and other coal derivatives used in the motor cars of all descriptions in that part of France and Belgium now held by the German forces, comes from Belgium's coal mines. The seized territory is thus made to bear the costs of carrying on the war against the people whose rightful possession it is. One of war's transcendent beauties.

* * * * *

Readers Got Early Service—The Derrick beat nearly all mining and oil publications in the country in presenting to the public the United States Mineral Production (of course including oil) for 1914. The "Mining and Engineering World" for instance, did not publish the same information until February 6th, which The Derrick published in the January Number. Not only this, but The Derrick condensed the Survey information so that its meat could be assimilated at a glance. The Derrick's readers get the worth-while facts—and get them in quick time.

* * * * *

Take a tip from the Editor—Don't be jitneyed out of existence on your vacation: Visitors to the Exposition had better keep their eyes open on the streets of San Francisco as a jitney bus 'll get 'em if they don't watch out.

* * * * *

The most envied people in the U. S. today are the farmers with large wheat crops. O, Zaza!

The Escape Valve

Devoted to the Relief of Over-Oiled Feelings

EXTRA! EXTRA!

His Royal, Imperial Highness
In person is leading the fight:
He's gone to the front (to the rear of the front)
To spend a whole day and a night!

No—No! No restricted immigration and no big navy is the combined judgment of congress and the president this past thirty days. Here's hoping it's all for the best!

Disappearing—"Hyphenated Americans."

"The Return"—

From the mind of John M. Wright has sprung a prose poem of unique beauty, "The Return," a vision expressed with a simplicity and clarity that gives the brief booklet a high literary value. A great stylist such as DeQuincy could scarcely have crystalized this visionary train of thought in a manner to bring to the mind of the reader the feeling of reality which is essential to the success of such a piece of literature. For "The Return" deals with the return to life of the little corporal, Napoleon, who awakes from his sleep in the tomb by the Seine to take command of the armies of France in the hour of terrible need.

The appeal of "The Return" is, therefore, entirely to the imagination, which is immediately gripped by the opening.

"I see the great Dome of the Invalides and under it the beautiful sarcophagus at which all men gaze in wonder and humility; but the massive syenite covering has moved aside, the casket within is open, it is empty.

"I see a little man in a gray cloak at the entrance to the office of the President and I hear him demand admittance.

"He passes in; the President asks his wish.

"I wish to save France."

"And who are you, to save France?"

"I am myself. Once I served the French people, as soldier, as consul, as their Emperor."

"And how may I know you are he of whom you speak?"

"Mr. President, look at me!"

"His voice seemed the voice of God, and Godlike power shone from his eyes.

"The President knelt.

"Sire!"

"Call me not Sire! I have learned how false my dream of empire. Not again will I be Emperor."

Not again will he be Emperor: But he rises to save France—France, which worships him as her greatest genius. In a few words, he does save France, and "the People rule." And as they rule, as the mission is accomplished, the Little Corporal takes his farewell—

"No more the Kaiser wears a crown. The people rule. People of Germany, soldiers of England, soldiers of France, my work is done. Farewell."

And then, again, John M. Wright, President of the Peerless Oil Company of California, who looks perhaps, like a judge (he is an attorney) but not like a dreamer, sees "the Dome of the Invalides and the Great Tomb beneath. All is in place where he whom France so loved, who so loved France, lies in his quiet sleep."

"The Return" was written by Mr. Wright August 25,

1914, and has been but recently published by Paul Elder & Company, San Francisco's famous book publishing house. Only a limited edition was published, the Editor of the Derrick receiving "copy No. 110," of the 500 copies comprising the first edition. The volume dressed in gray, is an elegant piece of workmanship, suited to the style of story it holds. There are three illustrations, two reproductions of pictures of Napoleon and one of his tomb.

So unusual is this display of imaginative power by a confirmed oil company president that the editor siezes upon it with joy to adorn and embellish that portion of the Derrick "devoted to the relief of over-oiled feelings." It is doubtful if those who sympathize with Germany's cause will be interested in "The Return."

ARE YOU?

There lived a man with soul so dead
He never to himself had said,
"What it has cost me to get wise!
"I've been a darned fool not to advertise!"

The goods he carried were first class
When first he carried them—alas,
He carried them for forty years
Ere he had left this vale of tears!

When the poor gink had passed away
'Twas advertised he'd gone—and say,
The people flocked to his old store
And bought it out from roof to floor!

Say, are YOU one of that great throng—
Dead as a corpse your whole life long?
If so, wake up! Come to! Get wise!
NOW is the time to ADVERTISE!

Briefs From The U. S. Geological Survey

Gold Production in the U. S. in 1914 amounted to \$96,266,800; in the world, \$450,491,800. California was the leading gold-producing State, with a valuation of close to \$20,000,000. The leading country, or rather continent, was Africa, which produced \$200,000,000.

* * * * *

Mineral Production of the U. S. now exceeds two and a half billions annually, according to the Survey's figures. No other nation competes with ours either in abundance or variety of mineral resources. The 1914 U. S. mineral production showed such world percentages as:—40 per cent of world's coal output; 65 per cent of world's petroleum output; 40 per cent of world's iron ore production; 55 per cent of world's copper and 30 per cent of world's lead and zinc.

* * * * *

Notes from Coalinga

General Petroleum Co. has 28 producing wells on section 4-27-21 and has suspended drilling operations on that section. This property is producing 50,000 barrels per month. The oil averages 36 Be. gravity. Territory is shallow and wells are all good producers.

Little Jack Oil Co., section 28-25-18, has resumed work.

K. T. O. Co., on S. E. quarter of 19-20-15, has well 38 down 2100 feet, twelve and a half inch casing.

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Interesting Developments of Recent Date

Annual Report of Union Oil Co. comes to hand too late for anything more than a brief financial summary in this issue of the Derrick. The report gives "trading profits" as \$6,085,251.92, an increase of \$725,417.50 over the 1913 gross profits, and "net profits after all charges and deductions, of \$2,735,524.43," an increase over the 1913 profit of \$209,293.92. The company spent \$706,678.38 for drilling. "Current assets increased during the year in amount approximately \$1,860,000.

The Company's assets and liabilities are shown herewith:

ASSETS	
Oil lands, rights and leases	\$22,776,138.56
Other properties	20,752,039.48
Investments in controlled companies	13,230,096.73
Investments in affiliated companies	203,392.23
Current assets	10,152,455.94
Deferred charges	203,392.23
	<hr/>
	\$67,477,019.58
LIABILITIES	
Capital stock	\$31,312,900.00
Stock subscriptions	2,433,000.00
Bonded debt	8,240,000.00
Trust notes	2,999,000.00
Purchase money	985,714.74
Due affiliated companies	393,817.42
Current liabilities	2,726,530.36
Depreciation reserve	6,597,384.46
General reserve	10,000,000.00
Surplus	1,788,672.60
	<hr/>
	\$67,477,019.58

Note—The bonds of the Producers' Transportation Company guaranteed by the Union Oil Company and outstanding in the hands of the public on December 31, 1914, amounted to \$1,620,000.

Two Big Ships Building Here.

The Union Iron Works in this city has begun the construction work on two immense steamers, each of 10,000 tons capacity, and to each cost from \$700,000 to \$750,000. Both vessels will be 400 feet in length, 55 feet beam and 32 feet deep. They will be completed the latter part of this year and will be the finest cargo vessels ever turned out of the local yards. It is believed that shipbuilding on this coast will be revived as a result of the war, because there is a great scarcity of ocean-going vessels and freights are sky high.

General Petroleum, Ltd.—There is talk here in San Francisco that the General Petroleum Limited, the English company, is to be dissolved and its assets distributed to the original security holders of General Petroleum of California. The British corporation was formed at a most unfortunate period and has met extreme difficulties almost ever since its incorporation.

Union Ships Gasoline to London—Union Oil's tanker Lompoc has cleared for London with a cargo of 60,000 barrels of distillate destined for the Allies. The value of the cargo is placed at \$350,000. The Lompoc sails under British registry, consequently when she cleared every man on board had made his will. It is considered likely, in view of the German submarine blockade of England, that British warships will convoy the Lompoc when she begins to near her destination.

Annual Meeting of the Shareholders of the Combined Oil Company was held January 19 in the offices of the Company in the Phelan Building, this city, a very lively interest being displayed by the shareholders present. The meeting lasted four hours and included an exhaustive discussion of the Company's present financial condition, its past history and the future prospects reasonably to be expected.

Promptly at two p. m. the meeting was called to order by Phillip C. Boardman, President. Out of 1,620,202 shares outstanding, 1,039,615 shares were represented, 109,300 being voted by the holders in person. No written report of the Company's conduct and business was presented by the officers; instead of this, the records of the Company's business, as shown in the correspondence and books, was turned over to the shareholders for their personal investigation, the officers informing the shareholders that they stood ready to answer all questions relating to the Company's business during their stewardship. This action was prompted by the number of inquiries which they had received through the mail, requesting detailed information. An oral statement by Mr. Boardman gave a multitude of facts concerning the Company's management since his first appearance in behalf of the Combined as its attorney, in December, 1912. These facts have already been published in the report recently sent to shareholders. Those of prime interest to the shareholders can be stated briefly as under: To begin with, the shareholders have had a fair run for their money. Credit to carry the Company has been secured at a time when credit was most difficult to get. Production has been increased so that the Company would have been entirely out of debt by the end of 1914 but for the chaotic condition resulting from the war. At the present time the debts could very quickly be paid if the oil could be entirely disposed of, and with the return of normal shipping conditions the Combined will be in excellent shape, though at the present time, money is needed. To provide money a time limit extension to July 1 has been granted to those thus far unable to pay their assessment. The war is directly to blame for the loss of income suffered by the Combined, the Agency, to which the Company's oil is sold, having cut down the permissible amount of oil which it will receive to 3,000 barrels per month. The Combined has produced over 11,000 barrels a month, and under conditions such as prevailed before the war could easily have been producing 12,500 barrels per month at this time. The high mark in production was reached in August last, when 11,351 barrels was produced from six wells. The Company now has eight wells, but the output has been curtailed to about 3,500 barrels per month to meet the conditions. The two new wells, Nos. 7 and 8, were completed the latter part of the year, and there is nearly enough easing on the lease to drill number 9. At present all the wells are being pumped but half time and expenses have been cut to the minimum at which the property can be operated without injuring its producing possibilities. The Midway property is estimated to be worth at present about \$100,000 (a most conservative valuation); with the return of normal conditions it should be worth \$200,000 or over. Between the present and March 16, 1916, four more wells are required to be drilled under the terms of the lease, but if war continues an extension of time can be had from the General Petroleum Company, the "landlord."

If the Company's entire output could be sold there would be a net income of \$1,600 per month, or an average of \$200 per well per month. With four more wells, under normal conditions, this should be increased to \$2,400 per month, NET. In short, it is thoroughly apparent that the Company has been handled both intelligently and honestly, and provision made for any contingency which could naturally be expected; but that the conditions with which all are familiar were not to be expected, and the officers cannot be blamed for them. This was the sentiment of the shareholders present at the meeting after they had thoroughly gone over the books and questioned the officers for upwards of three hours. They therefore approved the work of the present directors by re-electing them; the board, in turn, re-electing the same officers.

The meeting closed with a vote on a resolution empowering delinquent shareholders to purchase treasury stock to the amount of holdings lost at the delinquent sale, for the price of the assessment and costs of the sale, "subject to such additional charges as may accrue against the same. This purchase privilege is open to delinquents until July 1, 1915. This is another instance of the spirit of consideration mentioned in the December Number of the Derrick, in which the general consideration of the directors of the various oil companies for the shareholders, was touched upon.

Forfeited Charter Long Ago. In reply to inquiries as to whether or not the California Consolidated Oil Company was still doing business; it is not. The Company forfeited its charter November 30th, 1912, the Derrick having determined the exact date by writing to Frank C. Jordan, Secretary of State, Sacramento. As far as is known the money invested in the California Consolidated, mostly by people of small means, went entirely to promoters, lawyers and office employees, and represents nothing but loss or "experience" to the investors.

Business Pressure Forces Frank L. Brown from Presidency of Palmer Union.—Pressure of his other business interests has forced President Frank L. Brown of the Palmer Union Oil Company to resign his position in spite of his immense interests in the company. Mr. Brown is succeeded by John M. Williamson, president of the California Liquid Asphalt Company, in which the Palmer Union has a half interest. Mr. Williamson is too well known to need introducing.

Although Mr. Brown's other business forces him to give up the presidency of Palmer Union, he will by no means relinquish his interest in it; he is by far the largest individual shareholder, having a big portion of his fortune in this investment. In a letter sent to the shareholders of the Palmer Union under date of February 8, Mr. Brown informs them that while he is "reluctant to relinquish the presidency and management of the Company" he does so because of the many demands upon his time by other corporations in which he is largely financially interested, and the additional fact that his duties as a director of the Panama-Pacific Exposition will require whatever other time he has to spare this year. It is impossible for him to continue residing the major portion of his time at the Palmer Camp, as he has been doing, and carry on his other duties. Mr. Brown is known to be interested in the cement industry and has very large land holdings in Butte County, near Oroville. He has many other "irons in the fire" being one of the most active business men in the Golden State. Considering the high pressure under which he has labored, and the difficulty of running his other affairs in addition to managing the Palmer, it is a wonder that Mr. Brown did not resign long ago. He has

toiled day and night to make a success of the Company and leaves its active management to a worthy successor and co-worker. Mr. Williamson, the new president, recently completed a well for the Palmer under a contract that interested him in the Company financially. The well is located on the Stendall property and is reported good for 300 barrels per day.

Both Mr. Brown and Mr. Williamson have the completest confidence in the Palmer financial success, which they hope to hurry materially by drilling new wells. Mr. Williamson desires to drill six and looks for the co-operation of the shareholders in financing the work through loans. The Company has a contract with the Union Oil Co. for the sale of its product at 55 cents per barrel. "For the convenience of the business" the office of the Palmer will be located from now on in the First National Bank Building, Santa Barbara.

The Seaboard Oil & Transit Company held its annual meeting in January as scheduled electing the old board of directors, which in turn chose the same officers, C. L. Flack remaining as president and Mr. Goodrich acting as secretary. Information is not as complete as might be wished, but the following will interest the Seaboard shareholders: The Gate City Oil Company has acquired from the Seaboard Co. all the delinquent shares of stock except about 3000, which were redeemed under the offer made to delinquent shareholders last year. The Gate City thus acquired a very strong voting power in the Seaboard. In exchange for these shares the Gate City has written off of the Seaboard's indebtedness on purchase of its (the Gate City's) Maricopa property, the sum of \$19,970, according to appearances. A side transaction of interest to the Seaboard's shareholders is the apparent purchase from the Gate City Co. by C. B. Brenneman, the Seaboard's former president, of a block of 750,000 shares of Seaboard stock. The fact that Director Brenneman has acquired such an enormous holding of shares necessarily invites the attention of the other Seaboard shareholders. It would seem either quite a speculation, or a purchase dictated by "inside information."

The writing off by the Gate City Co. of the \$19,970, (or whatever the exact amount is) for the acquired delinquent Seaboard shares, leaves the Seaboard with a total indebtedness on the property of about \$40,000, as near as The Derrick's correspondent can estimate. That the Seaboard is fully able to pay this off without assessment, while at the same time maintaining its other contracted obligations, cannot be doubted, if the plan outlined by the attorney for the creditors, and agreed to by the Gate City people, is adhered to. The annual report will in all likelihood indicate the Company's course in this matter. The Derrick expects to publish all the facts concerning the Company's present condition, its operations this past year, and its future course, as outlined by its directors, in an early issue.

Lost Hills Development Co., operating on section 30-26-21, has six producing wells averaging 200 barrels per day each. Gravity, 22 deg. Be. Depth, 400 to 700 feet. Well No. 7 now being started. Co. has 720 acres of land adjoining Martin & Dndley's "discovery well," the well that put Lost Hills on the map. The Co. is drilling 2 wells per month with one drilling crew. The original discovery well, be it noted, is holding up at 160 barrels per day of 18 Be gravity oil.

Standard Oil has imported six men from Bakersfield to work on their Domengine lease on No. 2 a test well on 27-18-15 recently cemented at 3030 feet. It is reported that this well will be drilled to tap the paraffin-oil sand found on section 28-19-15.



THE RITTMAN PROCESSES

BIGGEST TECHNICAL EVENT OF YEARS IN OIL'S REALM

On March First, Secretary Lane of the Interior Department, announced the discovery of two chemical processes of apparently immense importance, perfected by Dr. Walter F. Rittman, chemical engineer of the Bureau of Mines. The process of greatest interest to the oil industry is one which will "greatly increase the supply of gasoline," while the other "may make the United States absolutely independent of the rest of the world in regard to important materials necessary for the dye industry and the manufacture of high explosives used in warfare and in engineering apparatus."

So says the Government's press bulletin, from which we quote:

"The first of these processes promises to enable the independent refiners in this country to increase their output of gasoline from petroleum 200 per cent or more. With an estimated production on the part of the independent refiners of 12,000,000 barrels of gasoline in a year, this will mean an output from the independents alone of 36,000,000 barrels, greater than the total production today from all sources.

"The second process includes the manufacture from crude petroleum of what is known chemically as toluol and benzol, both of which have heretofore been obtained from coal tar. As Germany has specialized far beyond other countries in by-products from coal, the United States and the rest of the world have been dominated by that country as regards those products of toluol and benzol which are the important bases for the production of dye stuffs and high explosives, and especially smokeless powder.

"The discoverer of these two valuable processes, after many years of research, is Dr. Walter F. Rittman, chemical engineer of the Bureau of Mines, the work having been done at Columbia University, New York, the facilities of the laboratory there having been turned over to the Federal Government by President Nicholas Murray Butler. Application has been made by Dr. Rittman, on behalf of the Federal Government, to patent these processes in order to prevent any monopoly in their use, the patents to be dedicated to the whole American people."

What Interior Secretary Lane Says

"These processes," says Secretary Lane, "are fraught with the utmost importance to the people of this country. For some time the Standard Oil Company, through the great amount of money at its command, through its employment of expert chemists and through its extensive organization, has had a big advantage over the independents in the production of gasoline, this company having a patented process that obtains for it as much as three times the amount of gasoline from a given quantity of petroleum as the independents now obtain. There are two or three other large corporations that have an efficient process for the manufacture of gasoline, but the independents as a whole have never been able even to approach the results obtained by the Standard Oil Company. Now the Federal Government, through the efforts of Dr. Rittman, proposes to make free for the use of all of the people of this country who wish it, a process that is confidently expected to increase their yields of gasoline from crude petroleum fully 200 per cent and perhaps more, such results having repeatedly been obtained in the laboratory. It is claimed by Dr. Rittman that his process is safer, simpler and is more economical in time than processes now in use and these are economic factors of great importance. With a steadily increasing demand for gasoline for automobiles, motor boats and engines, this fortunate discovery comes at the proper time. It is but two years ago that the automobile industry, —fearful that the supply of gasoline might not be adequate for its rapidly expanding business, —offered through the International Association of Recognized Automobile Clubs, a prize of \$100,000 for a substitute for gasoline that would cost less than gasoline. Happily the urgency of this situation has passed and at the present time there is a plentiful supply of motor fuel to meet immediate demand. This new process adds to the hope, that in spite of the wonderful growth in the use of gasoline, there may not be any shortage in the future. It indicates an increased production of gasoline from the present production of petroleum, an output of 50,000,000 barrels instead of 25,000,000, as under the present methods. It will render free for use to all, the results of that efficient and intelligent research which has heretofore been only at the command of the wealthy. I am led to believe that

it will not only be of inestimable value to the refiners commanding but limited capital as well as those of wealth, but also to the hundreds of thousands of users of gasoline. When it is realized that the gasoline industry each year in this country yields products amounting in value to between \$100,000,000 and \$150,000,000, the importance of this discovery is seen.

"The second process discovered by Dr. Rittman may prove of more value to the country than the first, in that it suggests the establishment of an industry in which Germany has heretofore been preeminent—the dye industry, and also promises indirectly a measure of national safety of incalculable import. Among necessary ingredients of high explosives used in modern warfare, toluol and benzol are in the first rank. Heretofore these products have mainly been obtained in Germany and England from coal tar, and the explosives manufacturers have had to depend largely on the supply from these sources in the making of explosives. I understand that some toluol and benzol have been obtained from American coal and water-gas tars, but this supply does not begin to satisfy the present demands. The Federal Government now proposes to obtain toluol and benzol from crude petroleum also. I am further informed that these products can be produced from practically any American petroleum and that supply can be made sufficient not only for the entire American trade but also for other purposes. This process has gone far enough to indicate that the two products can be produced at a reasonable cost. The real comforting thing, however, is that we have the knowledge that this new source of supply is at the command of our people, and that in time of great national stress, if the nation is ever called upon to defend itself, we will be able to manufacture the most efficient and most powerful explosives known in warfare. Were it not for this discovery, it is possible that in such an emergency, we might be compelled to rely largely on the greatly inferior explosives that were used in the time of our Civil War and this would spell national disaster.

"Dr. Rittman concludes from his experiments that this process may become more economical than the German method of obtaining these products from coal tar, as this process not only makes toluol and benzol, but also gasoline in considerable quantities. He intimated to me the possibility of the value of the gasoline being an important factor in paying the costs of the process. If this should prove to be true, it may result in eventually giving the United States a supremacy in the dye-stuffs industry that has for some time belonged to Germany, since toluol and benzol are the source of many of these important dye stuffs that are used in the silk, cotton and woolen industries. It would also tend to prevent disturbance of the great industries engaged in the manufacture of silks, cottons and woollens in such extraordinary times as we are now experiencing, for we would be able to supply them with the necessary dyes."

COMMENT ON THE RITTMAN PROCESSES

(From the Paint, Oil and Drug Review)

Out of the mass of unauthoritative and conflicting statements in reference to the direct distillation of aniline oil and benzol we are able to find no criticism of Dr. Rittman or his work. He is serious, modest and unassuming. He says: "I do not claim to cheapen the process of producing benzol or toluol, or, for that mat-

ter, do I claim to have lessened the cost of deriving gasoline from petroleum. My process makes it possible, though, to get gasoline from cheaper oils and residues and, therefore, the cost is lessened in this way."

He would not attempt to estimate the actual reduction in the price of a gallon of gasoline which his process would make possible. At present, he said, there was nothing to compute this on, except the laboratory experiments, and it would be impossible to estimate all of the extra costs or unlooked-for economies that might develop when the scheme was worked out on a large commercial scale.

Gasoline is derived by the new process from the residuary oil after gasoline and other products have been extracted by the old methods, and this residuum has been considered practically useless and can be bought at 1 to 3 cents a gallon. By the Rittman process nearly a gallon of gasoline, besides the other products, can be extracted from every gallon of this waste oil.

The Rittman gasoline process consists of breaking up the vapor of crude oil instead of breaking up the oil itself, as in the old distilling process. The vapors are subjected to a great pressure in a heated tube, and the molecules are "broken" into the atoms by intense heat.

The new method of manufacturing benzol and toluol is said to be safer and more efficient than the old one.

The new arrangement which has just been entered into between the U. S. Bureau of Mines and the Aetna Explosive Co. will offer an opportunity for careful study of the factory problems involved. The Aetna Company undertakes to devote not less than \$200,000 to the construction of apparatus and machinery necessary to make exhaustive tests of the commercial feasibility of the new discovery. The work will be carried on in Pittsburgh.

"The contract expressly provides that all devices, improvements, processes and inventions of any kind evolved in the development of the process shall be subject to patent by the Bureau of Mines for the benefit of the public. The work will be carried on under the direct supervision of Dr. Rittman, who will have exclusive control and direction of the experimental work."

Dr. Rittman is only thirty-one years of age. He was born in Sandusky, Ohio, and he was educated in the public schools there. Later he took a course of mechanical engineering at the Ohio State University. Subsequently he was graduated from Swarthmore College and afterward studied chemistry in the summer school of Columbia University. Two years ago he joined the government scientific forces.

Dr. Rittman has shown himself a hard worker and a man of good ability. The value of his invention consists in furnishing new sources of supply and a new method of treatment. From a scientific standpoint this is important. He has apparently proved that it is a chemical possibility to transform the paraffines into aromatic benzols—but it seems probable that it will be a slow and arduous process to make it profitable. To evolve from petroleum sources which have a definite market value, a benzol that will compete in price with a by-product like coal gas benzol which can be separated for a very low cost when modern coke ovens made for by-product recovery are used, is obviously difficult. To say it was impossible would be to defy the lightning of scientific inventive genius.

Production-Exports, Statistics

Production, Consumption and Allied Statistics January and February, 1915 (Standard Oil Figures)

With the tabulation presented below for comparison, there is little to be said except as refers to shut-in production and storage. In January there was a surplus of 750,000 barrels, and a potential surplus in the shape of shut-in production, of 620,000 barrels, (estimating 20,000 barrels daily shut-in). Twenty new wells were completed, with an initial daily output of 6246 barrels.

A slight decline in production and a much slackened rate of shipment characterize the February report, which also shows a total of completions smaller by one well, with a smaller average output. In commenting on the figures showing average daily shipments, the Standard's paper, "Standard Oil Bulletin" says that the shipments "were extremely light and probably do not represent the present daily consumption. The March figures should show a material shipment increase as an offset to the low shipments of February."

JANUARY FIGURES

FIELD	New Rigs	Drilling	WELLS		Producing	Production Per Day
			Completed During Month	Abandoned During Month		
Kern River	1	2	.....	.....	1,373	17,800
McKittrick	.....	2	.....	.....	271	10,359
Midway-Sunset	2	41	7	.....	1,386	111,355
Lost Hills-Belridge	3	4	1	3	237	12,395
Coalinga	1	9	2	2	812	39,677
Lompoc and Santa Maria	.....	5	.....	.....	236	11,065
Ventura County and Newhall	3	17	4	.....	438	2,416
Los Angeles and Salt Lake	.....	1	.....	.....	688	5,945
Whittier-Fullerton	6	61	6	.....	568	30,293
Summerland	.....	.....	.....	.....	102	148
Watsonville	.....	.....	.....	.....	5	75
Totals	16	142	20	5	6,116	250,528

Total crude oil stocks, January 31, 1915, 59,276,301 barrels.

Total shipments from fields, January, 1915, 7,016,337 barrels.

FEBRUARY FIGURES

FIELD	New Rigs	Drilling	WELLS		Producing	Production Per Day
			Completed During Month	Abandoned During Month		
Kern River	.....	2	1	.....	1,374	17,405
McKittrick	.....	2	.....	.....	270	10,246
Midway-Sunset	.....	7	39	9	1,388	109,463
Lost Hills-Belridge	1	7	.....	1	241	12,033
Coalinga	.....	9	.....	.....	807	39,291
Lompoc and Santa Maria	2	4	1	.....	230	11,435
Ventura County and Newhall	2	18	1	.....	430	2,545
Los Angeles and Salt Lake	.....	.....	.....	.....	687	6,711
Whittier-Fullerton	5	67	7	.....	570	37,514
Summerland	.....	.....	.....	.....	102	118
Watsonville	.....	.....	.....	.....	5	75
Totals	17	148	10	1	6,104	246,869

Total crude oil stocks, February 28, 1915, 60,527,306 barrels.

Total shipments from fields, February, 1915, 5,661,326 barrels.

Exports of Mineral Oils for January

Following is the table of exports from California for the month of January, and also a brief statement of general conditions with comparative figures for the past several years, showing the actual situation in the oil export business at present:—

Exports of Mineral Oils in January

	Gallons	Dollars
ILLUMINATING:		
San Francisco	10,382,507	464,045
So. California	2,466	383
LUBRICATING AND PARAFFIN:		
San Francisco	184,701	25,276
So. California	513	188
NAPHTHAS, GASOLINE, ETC.		
San Francisco	39,102	5,007
So. California	5,121	593
RESIDUUM, GAS OIL, FUEL OIL, ETC.		
San Francisco	13,016,422	233,936
So. California	24,826	710
Total San Francisco	23,622,732	728,264
Total So. California	42,926	1,874
Grand Total	23,665,658	730,138

California's proportion of the country's total exports for January is about one-sixth, the nation's entire shipments amounting to 146,769,701 gallons, valued at \$8,714,728. This is a falling off from the country's January, 1914 shipments, when 163,292,765 gallons, valued at \$10,543,980 was exported. On account of the recent heavy requirements of the European belligerents, the shipments for the past seven months do not show such a falling off as was anticipated, as is shown by the following statistics:

	Seven months ending January 31,	
	Gallons	Dollars
1915	1,253,121,971	74,650,604
1914	1,314,606,784	88,977,718
1913	1,156,131,416	76,802,904

Bakersfield Wholesale Gas Prices are reported as 8 1-2 cents per gallon, the lowest price on record. Within the past 20 months the price of gasoline has been reduced from 22 1-2 cents wholesale to the present level.

Shell Co. of California's Martinez Tank Farm will consist of 51 tanks of 55,000 barrels capacity each, 41 of which will be erected by the Lacy Mfg. Co. of Los Angeles, the balance by the Petroleum Iron Works Co. Some tank construction!

Standard Oil's Statement of Production and Production Area in California

In the last number of the Standard Oil Company's paper, "The Standard Oil Bulletin," there appears the following statement of California's production to date and the acreage from which the oil has been drawn:

"To December 31, 1914, California had yielded a production of 761,693,641 barrels from a proven area totaling 81,363 acres, or a production per acre of 9360 barrels. The McKittrick Field, with its limited area and large yield, has been by far the most productive field per acre in the State. The tabulation presented herewith does not include undrilled territory that is regarded as productive, but considers only the territory actually developed and proven. Boundary lines of area are drawn from 200 to 300 feet outside the proven field, and in the case of outlying single wells, the field is credited with about fifteen acres.

CALIFORNIA—PROVEN AREA AND TOTAL CRUDE OIL PRODUCTION, DECEMBER 31, 1914

FIELD	IN ACRES	Total Production to Dec. 31, 1914 (Barrels)	Barrels Produced Per Acre to Dec. 31, 1914
Kern River	7,650	173,712,101	22,710
McKittrick	1,345	42,078,772	31,290
Midway-Sunset	36,500	177,018,440	4,850
Lost Hills-Belridge	2,600	12,959,745	4,470
Coalinga	14,400	153,004,536	10,630
Lompoc-Santa Maria	7,800	66,156,141	8,390
Ventura County and Newhall	4,150	10,580,000	4,000
Los Angeles and Salt Lake	2,700	47,568,946	17,620
Whittier-Fullerton	3,400	69,718,444	20,510
Summerland	230	2,013,984	8,770
Miscellaneous	*200	882,527	4,410
Total	81,363	761,693,641	9,360

* Estimated

Shell Co. of Cal. continues to invest steadily and heavily. The Company has a very large number of stations around the Bay. It has a new station just opposite the Van Ness avenue entrance to the Exposition. A tank station is now under construction in the Potrero district, San Francisco, which will cost considerable. This is on Army street, the site being bounded by Army, Illinois, Kentucky and Marin streets. OtOther station is under construction around the Bay. Shell Gasoline is selling here at 11 1-2 cents, as is Standard's "Red Crown" and Pinal-Dome's "Perfection."

A Big Event to the Oil Industry of the State is the report that the United Fruit Co., operating the largest single fleet carrying the American flag, has transferred the steamer "Metapan" from a coal burner to an oil burner, as an experimental move. If the economy and other advantageous features of oil commend themselves to the United Fruit Line, 144 vessels, in all, may be converted to oil burners! This would be but a start—one line—out of a flock of steam lines plying the Atlantic; but it would be sufficient to create an immense new demand and it may be the turning point in the present low fortunes of California Oil. The reduction incosts would undoubtedly force other lines to "get in line."

DEATHS

Mrs. John D. Rockefeller, died March 12th, aged 76 years. Mrs. Rockefeller lived through the most interesting period of the oil industry, and as the wife of the world's oil king shared the greatest oil fortune in a modest and retiring manner.

Thomas Hayes, the veteran superintendent and cementing expert, has the sincere sympathy of his many friends in the loss of his son, who passed away a few days ago.

Pres. Taft's Wyoming-California Withdrawal Valid

On February 23rd the U. S. Supreme Court made known its findings in the great withdrawal case. The Court upheld the validity of President Taft's emergency withdrawal order of September 27, 1909, withdrawing from entry for oil development close to 3,000,000 acres of the public domain. Of this vast acreage, 170,000 acres was withdrawn in Wyoming and 2,871,000 acres was withdrawn in California. The purpose of the withdrawal of this land from private entry was to assure the U. S. Government of an adequate supply of oil for naval purposes.

As the details of the decision was published in full in the press generally throughout the country at the time, there is little left to remark upon except that those who took the gamble of developing the withdrawn lands after September 27, 1909, have lost. What disposition the Government will make of their investment remains to be seen. One thing is certain: There are some good producing wells on the Naval Reserve that didn't cost the Government a penny to drill.

Will Make Oil Public Utility. C. P. Fox, Editor of the Oil World, has had a bill introduced (Jan. 28) in the Legislature by Assemblyman Harris of Bakersfield, which provides that the production, distribution, refining and transportation of oil shall be placed under the control of the State Railroad Commission. Another measure is designed to amend the Public Utilities Act so as to bring oil within its scope. Still another act prohibits railroads from entering the oil business as marketers. Mr. Fox, in his paper, says "The object of the proposed statutes is two-fold: To preserve the oil producers with their long train of dependencies like workers, merchandizing houses, commercial institutions and investors on the one hand; and to prevent discrimination toward the several sections of the consuming public, on the other."

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The National Paleontological Society will meet in California in August, meetings being scheduled to be held at Berkeley (U. of C.) August 3rd, 5th, 6th, and 7th., and at Stanford on August 4th. The sixth annual meeting of the Pacific Coast section was held at Bacon Hall February 27th, at which time fifteen important papers were read. The papers of Dr. J. C. Merriam, R. E. Dickerson and James Perrin Smith were mentioned prominently in reports of this meeting.

The International Engineering Congress will be held in San Francisco September 20-25. From 200 to 250 papers and reports will be read covering all phases of engineering work, contributed by some of the world's foremost engineers. The authors represent eighteen different nationalities, showing how truly international the Congress is.

Chemistry's Latest Triumph.—The claims of Dr. Walter O. Snelling, research chemist of Homewood, Pa., have been of great interest to petroleum chemists the country over. Dr. Snelling announced that he could make gasoline out of ordinary lubricating oil, vaseline, white kerosene, fuel oil or any like hydro-carbon. To demonstrate he took a quantity of lubricating oil, says a Pennsylvania contemporary, enclosed it in a steel, air-tight "bomb," subjected it to heat until a register gauge showed 800 pounds pressure within the "bomb," allowed it to cool and then poured it out. When the oil went into the bomb it was of rich, yellow color; when it came out it was of dark green, the color of Pennsylvania-grade crude oil and having the identical odor of the latter. He then distilled the oil and it yielded 15 per cent of gasoline and about 2 per cent of natural gas.

Apparently, by the heat treatment, crude oil was synthetically reproduced, although the materials used were themselves originally obtained from crude oil. Dr. Snelling said that in about 2000 tests he had found that the best results are obtained when the space occupied by the substance is only about three-elevenths of the total volume of space within the "bomb." He said that he had been experimenting for five years.

"It is not yet certain that this method is capable of practical application in oil refining, in view of the fact that the pressure employed is high for commercial work," said he. "On the other hand, the remarkable results obtained are of such nature as to lead, without doubt, to efforts being made to build apparatus of large size for such work, but the success of these experiments cannot now be foretold."

"Drake Day" August 27, will be held in Oil City, Pa., this year. Drake Day is the day set aside by Eastern Petroleumites to do honor to the memory of Oil's famous pioneer, and to celebrate generally. The celebration will be held under the auspices of the Drake Memorial Association and all the old timers, including many who were alive when the drake well was brought in fifty-five years ago, are expected to be on hand.

Geological Survey of Alabama has issued Bulletin 15, "Statistics of the Mineral Production of Alabama for 1913," now ready for distribution, on application to Eugene A. Smith, State Geologist, Montgomery, Alabama.

Pinal-Dome Refining Co. Will Exhibit at the Exposition, Secretary Merritt informs the Derrick. The exhibit will be ready for inspection within 40 to 60 days in all likelihood. The Pinal reports an excellent demand for their superior products. Paul W. Prutzman, chemist and petroleum engineer, with the Company for several years past, has been in San Francisco with his bride, taking in the Zone. Mr. Prutzman was observed with his eyes riveted on the Acroscope, and later, on the beautiful Venus in front of "Creation"! Tut, tut, Paul! Your eye for feminine beauty will—Hah!

Oil Prospects in Northwestern Oregon

The general similarity in the form and position along the Pacific Ocean of the Coast Ranges of Oregon to the oil-bearing regions of California has led many people to believe that oil may occur in commercial quantity in western Oregon. However, according to the report of a reconnaissance of that region by C. W. Washburne, a geologist of the United States Geological Survey, the chance of getting oil in commercial quantity there is very slight indeed.

"Mine, Quarry and Derrick," is the title of a new publication devoted to the development of Northwestern America, but particularly to Western Canada. The publication ably edited and with a high class of contributors, is now in its third month. It is semi-monthly and is published in Calgary. Particular attention is given to oil exploitation in Western Canada. The publication is clear and fair, and is apparently well backed.

Canada's Mineral Production In 1914 was valued at \$128,475,499, a decrease of \$17,159,313 from the 1913 valuation. The war is principally to blame for the lessened output and total value.

California Concentrates

(NOTE: The following items were left out of our last number for lack of space.)

Mascot Oil Company has declared a one-cent dividend, payable March 11, the first since last September. Mascot is delivering 35,000 barrels monthly to the Standard. Dividends will probably be continued.

Fuel Oil for Panama Canal Use. Standard Oil has secured the contract to supply the fuel oil necessary for canal use during this year. Amount 450,000 barrels, price 92 cents delivered at Balboa.

New Market. The Independent Agency is reported to have closed a contract with the Guggenheim interests for supplying the oil necessary for the operation of the immense copper concessions of the wealthy syndicate in Chile.

FROM THE GEOLOGICAL SURVEY

Worth-while Facts, Briefly Presented

The U. S. Geological Survey's Exhibit in the Palace of Mines and Metallurgy represents the evolution of undeveloped districts in the arid west. The results of stream gaging have been utilized in planning a power plant and an irrigation project. A coal bed is being mined on one side; an oil field is under development elsewhere; a sandstone bed is being quarried in the foreground; mining and milling are in progress in the mountains; a town has been built and roads, railroads and other evidences of civilization abound. A series of cases illustrate what our common things are made of, what the raw material looks like as it is obtained from the earth, and where it occurs in the United States. For example, many of the familiar household articles are there, such as an aluminum saucepan, an electric-bulb filament, and a fountain-pen point; and above each article is shown the mineral from which it is made, traced back to the ore, and then a map of the United States, showing where the ores occur. At the west end of the space is an exhibit of the power and fuel resources of the United States.

Appropriations Granted

Congress has at last granted the \$1,500,000 necessary to construct the Washington joint home of the Geological Survey, Bureau of Mines and Reclamation Service. An additional \$350,000 was appropriated for the Pittsburgh buildings of the Bureau of Mines, as was also an allowance for moving expenses of \$57,000. Thus in a niggardly Democratic Administration three of the most ably conducted departments of the National administration were very well provided for.

Bulletin 576, "Lower Copper River Region, Alaska," is now available for distribution free of charge, on application to the Director, U. S. G. S.

How the United States Rose from the Ocean

An interesting exhibit which will be shown by the Survey at the Exposition, will be the illustration of the development of the surface features of the United States and adjoining lands—the gradual rise of the continent from the primal ocean and the accompanying development of life—a pictorial story of progress from the early fish and the huge half-reptile creatures known as saurians to the higher mammals such as the great saber-tooth tiger and the giant hyena.

Field Edition of San Francisco Folio

The field edition of the San Francisco folio (No. 193) is now ready for distribution. This folio contains topographic, geologic, and structural maps of five rectangular areas known as quadrangles, which embrace the San Francisco and Marin peninsulas, San Francisco Bay, and the east shore of the bay almost as far as Mount Diablo. In the text accompanying the maps the character of the different rocks is described in detail and the mineral deposits of economic value are pointed out. The folio also contains a number of halftone views of features that are of geologic interest, including one showing clearly the trace of the fault along which occurred the earthquake of 1906. The field edition of the folio is sold by the United States Geological Survey at 75 cents a copy.

Effect of Climate on the Composition of Echinoid Skeletons

Chemical analyses of starfishes, sea urchins, and crinoids, collected from all parts of the world, show that the skeletons of these animals contain much magnesia. The amount present is found by the United States Geological Survey to vary with the temperature of the water in which the creatures lived. The percentage of magnesia is highest in those specimens that lived in tropical waters and lowest in forms from the icy seas of Greenland and the Antarctic, with a regular gradation between which even shows the local effect of cold ocean currents upon life at the sea bottom.

The investigations suggest that the skeletons of these animals have the composition of magnesian limestone, or dolomite, and it is possible that they furnish clue not only as to the climatic conditions under which such limestones are now formed but also as to the temperatures of the oceans in different regions of the earth where, during different periods of geologic history, great deposits of magnesian limestone were formed. Examinations of these marine invertebrates will, it is hoped, yield definite information as to the processes of dolomite formation.

Water Supply paper 331, U. S. G. S., shows the results of the measurements of the principal streams in California. Free on application.

America's Gold Production

The value of all the gold produced in the United States from 1792 to January 1, 1914, is estimated by the United States Geological Survey at \$3,549,799,400; the value of the silver at \$1,709,517,600.

Copper Output

The total amount of copper produced in the United States since 1845 is 18,857,476,910 pounds. The largest production in any one year being 1,243,268,720 pounds in 1912. The production in 1845 was 224,000 pounds.

Some Salt!

The volume of the saline matter in the ocean is somewhat more than 265,956,133,600,000 cubic feet, or enough to cover the entire surface of the United States, excluding Alaska, 8,448 feet deep.

The Earth's Crust

The volume of the rocky crust of the earth, estimated as 10 miles thick, including the mean elevation of the land above the sea, is 1,633,000,000 cubic miles.

A cubic mile of river water weighs approximately 4,205,650,000 tons and carries in solution, on the average, about 420,000 tons of foreign matter. In all, about 2,735,000,000 tons of solid substances are thus carried annually to the ocean. One per cent of the contents of the oceans would cover all the land areas of the globe to a depth of 290 feet.

"Springs of California" Ready

U. S. Geological Water Supply Paper No. 338, "Springs of California," is now available for distribution to the public, free of charge.

RAMBLING 'ROUND THE EXPOSITION



(California Building)

The Exposition is stupendous!

It presents such a tremendous variety of exhibits that it passes human ability to describe what may be seen—for nearly everything entering into modern life is on exhibition.

Not counting a single foot of exhibit space in a Foreign or State building, there are forty seven miles of "streets" passing through exhibits every foot of the way, in the main Exposition palaces!

There are more than 80,000 exhibitors.

Out of this vast assemblage of exhibits the U. S. Government's displays are the most impressive—at least they appear to hold somewhat more interest for the majority of visitors. There is always a crowd inspecting, inquiring, marvelling. Whether it be the Government Mine, the mineral displays, the Army and Navy displays, the Treasury, the Postoffice or any other of the wonderfully extensive series of the Government exhibits, there is always a large gathering of eager watchers. At this particular time the Army and Navy exhibits hold an unusual fascination for Fair visitors; men, women and children gather before the model battle-ships and discuss their perfection of outline, their speed, the killing power of their guns, how much it costs to fire the guns, and so on. The writer observed one elderly-looking man with four boys and two girls around him, explaining that a certain shell about four feet high would wipe out the whole community in which they lived—this he said with the utmost relish. The children were duly impressed. Nearby a civilian was trying to argue with a U. S. gunner on the relative merits of American and German rapid-firing machine guns, assuring the Army man that the U. S. guns were by no means so deadly as the German guns. The Army

man replied they were MORE deadly and unpleasantly accurate, whereat the civilian moved on and new arguers and questioners continued to learn of the Nation's defenses.

What a wonderful aggregation of exhibits it is, will never be told. The best that the world has is on display and it certainly is being appreciated. More than 2,000,000 visitors having been admitted during the first month, and with every promise for increased attendance as the months progress.

Among the industrial exhibits the Busch-Sulzer Diesel Engine in the Palace of Machinery is very attractive to visitors from everywhere, who read the sign stating that "This engine was started by wireless by President Wilson on February 20th" with interest not unmingled with awe. This great Diesel supplies electric power to the Exposition company, which in turn retails it to exhibitors. The writer tried to get a good view of the engine but was insufficiently expert with the camera to get even fair results.

Of especial interest to visiting oil men are the exhibits of the Standard Oil Company, U. S. Steel Corporation, which is exhibiting among other products "National" pipe and steel derricks; the Union Oil exhibit, which is not yet completed, the tractors, gas engines, Diesels, and so on. The J. F. Lucey Company has an exhibit, divided into two departments, a working rotary outfit in operation outside of Machinery Hall, directly behind the "Panama Canal" Zone concession, and a stationary exhibit in Block 40, Machinery Hall. This is as yet uncompleted. The rotary outfit is installed in a 106-foot steel derrick erected by Carnegie Steel Company. It is plainly visible from the hills above the Exposition, or from the water. R. W. Andrews is in charge of the Lucey exhibit—Paul Boggs is responsible.

UNION OIL'S
MYSTERIOUS
EXHIBIT
INCOMPLETE



IN THE PALACE
OF MINES AND
METALURGY

* * * * *

California Derrick

The Oil Authority of the Pacific Coast

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

Going Up In Smoke.

Every commuter from the eastern shores of the Bay to San Francisco knows that there is generally a smoky murk overhanging the city, in addition to the seasonal fogs and mists. Though the air over the Bay itself is crystal clear, in fact unrivalled, over the city there is always a curtain of smoke more or less dense according to weather conditions. Even on the most brilliantly sunny days the smoke can be noticed over the southern portion—the industrial section. This is to be expected. Over the business district the fires in many of the big office buildings are not kept going a good part of each year. But there is most always some very black smoke in very plain evidence.

This black smoke presents a concrete example of the wasteful methods of doing business which scientists say is particularly characteristic of this country's business methods as a whole. The large amount of heat lost by under-consumption of the fuel oil is the first and most important loss from the viewpoint of the purchaser of the oil. Other losses are possibly not so interesting to the consumer of the oil but much more so to the general public. These losses are the dimming of the light of day, so that the public sees "as through a glass, darkly"; the pollution of the air, which is against the interests of the public health, the besmoking of the city and the useless destruction of fabrics, such as clothes, linen, draperies and so on, with all the inconveniences attendant upon this kind of loss. Here it is not improper to state that the drawbacks which the smoke problem presents to the "City Beautiful" idea are not within the scope of a commercial criticism of such a brief nature as this, which is written for the purpose of indicating an opportunity for a needed conservation of heat—and money—by seeing to the proper combustion of fuel oil in office buildings, hotels, apartment houses and the like.

The waste of heat from the improper burning of fuel oil is simply staggering; one authority places it at from 90 to 95 per cent of the heating power of the oil. To a very large degree, it is avoidable. The trouble is that most

consumers do not realize their loss through improper combustion. It is not a desire to be wasteful but ignorance of their loss or ignorance of how to prevent it that permits the continuation of this appalling waste. To save the money that is going up in smoke is not a difficult matter. Thorough combustion is all that is necessary. And as far as obtaining complete combustion of and getting all the heat in the oil is concerned, that is comparatively easy of accomplishment. The reasons for smoke, when oil is used as fuel, can usually be traced to one of the following group:

First, improper arrangement of furnace and burner.

Second, incorrect draft conditions.

Third, carelessness of the attendant when the furnace is properly arranged.

The art (for it is an art) of burning oil has made such progress to date that it is little short of criminal to allow any smoke to escape from a stack, liberating the destructive soot so well known to and "cussed" by nearly everyone on occasion.

The Derrick is for the abatement if not elimination of The-Smoke-and-Soot-annoyance for four reasons:

The city should have its natural amount of sunshine. The air should not be unnecessarily polluted by smoke and soot. Clothes, linens and the like should not be subjected to this damage against which there is no means of insuring and for which there is no method of reimbursing one's self. Lastly, and most important to the consumers of the oil, the actual loss in money.

* * * *

Maintaining the Overproduction.

The producers should love the Southern Pacific Company with a very tender, deep regard, yes, yes. When oil is "at the bottom" the S. P. brings it up—to the top of the well and thence into storage. The S. P. does this to prove undrilled territory—territory which it got from the United States Government under an agricultural grant excluding minerals other than iron and coal—and oil has been defined lately as mineral by the United States Supreme Court. The land is therefore the Government's mineral land, but the company goes right along in its drilling campaign, punching holes in ground that the Supreme Court will undoubtedly order returned to Uncle Sam. Why?

Why? There are a variety of reasons. If the overproduction is maintained, oil will be kept cheap against the final day of reckoning. If the over-production is maintained to the last ditch, great quantities of oil can be purchased below production cost by Associated Oil, for the railroad and at the railroad's command because the railroad owns 51 per cent of Associated Oil's stock. And, at the present time, because of the over-production there is obtainable much well material good as new, at average second-hand prices; and as long as the over-production can be maintained, this state of depression will continue. Oil companies will be forced to drill off-set wells to keep the railroad from draining their property. Everybody loses except the benevolent corporation forcing this condition upon the industry. It's a beautiful state of affairs, but the same judges who decided that oil "is a mineral within the meaning of the terms of this grant" can force partial restitution by a big charge for all the oil extracted—particularly for the oil extracted since the decision that oil is a mineral. Justice, right, decency, humanity, raise a common plea in behalf of the crushed independents of this state, forced to the wall by the most avaricious and rapacious corporation in the West. Their hope is in the Supreme Court.

Union Oil Will Remain American

On April 1st the option secured by the General Petroleum Company on the control of the Union Oil Company of California, will lapse.

This option has hung over the shareholders of the Union Oil Company for about two years now, like a black cloud threatening to burst over a village at the bottom of a ravine—just that bad—entirely so. Director J. S. Torrance was averse to granting this option and resigned. Union Oil's shares declined as a result of the option sixty per cent—from \$101. to \$40. While the price is better now—\$50—it is too late to aid the many small shareholders who undoubtedly lost heavily on their investment by selling when the Union announced its changed policy, non-payment of dividends. How crude, how raw in an oil journal, to discuss such a point! And anyway, beside the mark, instead of hitting it, for what we started to say was that Union Oil will remain American because the war laws of Great Britain will not permit Messrs. Andrew Wier and R. Tilden Smith to finance the British Union Oil Company. They will get for the British money invested, or advanced, a block of Union Oil Stock. But they will not be in control of the Union on that amount of invested capital.

Now that the option is lapsing, will the old policy of paying dividends be resumed? Who knows? With the Union about to go into a big merger taking in General Petroleum, very heavily in debt, and other companies heavily capitalized, it looks to this publication as though the dividends that the investors put up their money to receive, may still be far in the future. This publication is not, of course, one of the favored journals that receives first hand information from the Union Oil Company. We are privileged only to draw conclusions from the published reports in the favored papers. These reports state that the new merger will be absolutely free from debt. How this miracle is to come to pass is not plain to us. We should think the formation of a great company to take over a number of other companies which all have bonds outstanding in goodly quantity, would necessitate an assumption of these liabilities. The truth is that a scandalous amount of bunk has been written about the Union Oil Company's operations and the operations of certain allied interests.

At Least One Good Result.

One good thing about non-intervention in Mexico: It saves American producers even worse competition in marketing than they are now up against. The over-production in the U. S. is sufficiently large without having more of Mexico's oil on the market to lower the prices prevailing.

* * * *

"Filibusters" Expensive.—The filibusters conducted during the last session of Congress were very expensive to the country. They cost the nation the loss of a great deal of necessary legislation: necessary because much of the legislation was to decide on national policy and a great deal of money is involved in the decisions. Because of the long filibuster to defeat the President's ship purchase bill, a very large portion of the general legislation which had been favorably passed upon, failed to go through at the last minute. Even the supply bills were passed with extreme difficulty. The Standpat Republican-Democrat filibusters did the country harm when they killed the Ferris bill, the Adamson Water Power Act, the bill for the leasing of coal, oil and phosphate lands, the child labor bill and others of less importance.

* * * *

Thank God!

It is reported that all the big European financiers and bankers are worried by the enormous cost of the war, and have let it be known that this debt cannot be piled up indefinitely with any assurance of payment of the interest; and that for this reason pressure is being brought to bear on all the financial advisors of all the countries engaged, to the end that the war may be terminated without further delay.

United Oil Company is now entirely out of debt and about ready to pay dividends. The company earned \$267,245 in 1914, gross, with net profits of \$123,774, all of which went to pay off debts. The output for January was 40,000 barrels, from which \$19,000 was realized.

Good Prospect for Sale.

Frank La Vine, 131½ N. Broadway, Los Angeles, offers for sale 165 acres of excellent prospective oil land in the Parkfield District, Monterey County, close to drilling operations. One water well on this property contains oil showings. Further information will be furnished upon request.—Adv't.

SCENES ON THE ZONE AT THE EXPOSITION



Entrance to Zone near Fillmore
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Interesting Developments of Recent Date

Maddux "Water Relief" Bill

On March 15 more than one hundred oil operators and lease holders met at the Petroleum Club in Taft to discuss with R. P. McLaughlin, of the State Mining Bureau, the various clauses of the Maddux Water Protection bill. The meeting was the first of a series of monthly meetings of Midway operators, held to discuss methods of operation for the betterment of the business generally.

McLaughlin's address was brief and to the point. He stated that this bill was no political dodge, no vote getting swindle: It was an "open proposition," drawn up with the sole purpose of conserving the oil bodies from ruination by the water. He explained that it provides for a special department in the State Mining Bureau, with an officer at its head to be known as the State Supervisor of Oil and Gas, providing also for deputy supervisors to act in the various fields, empowered to secure logs and all information relative to wells. In addition the bill provides for a local man in touch with the needs and wishes of the operators. Another provision is that upon the complaint of three operators within a mile of any well this well shall be investigated and the deputy make a report upon it; this report or ruling to be passed upon by a board of three arbitrators, one of whom shall be appointed by the complainants, one by the owner of the well and the third by the State Mineralogist. If the ruling of this board should be unsatisfactory to the owner of the well, he may appeal to the Superior Court in the County in which the complaint is brought. These various steps, Mr. McLaughlin stated, safeguard the owner. The operators generally agreed with him. Comment freely followed Mr. McLaughlin's remarks. Mr. Ben Howe, of the Trojan Oil Co., said he thought the bill a very fair one and likewise very necessary, as "our valuable sands are fast being flooded." L. P. Guiberson, of the Indian and Colonial Dev. Co., declared the bill excellent, especially the clause providing for arbitration. W. O. Maxwell believed the first two arbitrators should appoint the third, rather than having him appointed by the State Mineralogist, which Mr. McLaughlin conceded a good point. A. J. Pollok believed the provision for appeal to the Superior Court would permit such a delay as to endanger the property of complainants with a just cause of complaint, but he acknowledged that to leave out some such provision might make the proposed law unconstitutional. Mr. Paul Payne believed the bill "the biggest and best thing planned for oil men in years." Many other suggestions were made and comment passed by the many members of the gathering and the general wish was that the bill might meet the favor of the legislators, and pass in short order. Many of the operators promised to support it actively by writing to legislators and using such other methods in their power as might be effective.

Mr. McLaughlin has been in Sacramento a good deal of the time since the meeting, in the interests of the bill, so it is safe to say everything to perfect it, so it may meet the ideas of the oil men, will be done and passage secured.

End of Independent Agency?

Assuming that the editor of the Oil World has the "real inside dope" and is authorized to speak, it looks as though the end of Independent Oil Producers Agency is in sight. The Agency is to be a portion of a gigantic combine consisting of the Union Oil Company, the General Petroleum Company, the California Petroleum Corporation and some British holdings in the Union and General Petroleum Companies, if Mr. Fox's information is correct.

After stating that "several groups of moneyed men are interested in California oil," and that, "it seems entirely reasonable to assume that under the changed conditions (i. e., brought about by the war) these men are best described as 'being hooked on the line,' and if they do not now go the route and see their several projects through, what capital they put in will be lost, or, to say the least will suffer a tremendous shrinkage," the Oil World's report continues—

"The common plight of each of these groups has made a common objective desirable and a giant company with vast stretches of developed and prospective territory, a great production, field equipment, pipe lines, ships, refineries, selling organizations is due for creation if present plants do not miscarry. More definite information is expected within a very few weeks, possibly days.

"Andrew Weir, on his late visit to the coast covered his activities with a dark mysteriousness, but all the time he was deep in the promotion of his idea that the only way out is to go further in. Realizing and confessing the shaken state of British finances and giving up all hope of immediate help from these sources, he had already convinced the American capitalists that his project was advantageous to themselves as well as to him and his associates. They promised to get into line. All that remained was to obtain the consent of the California factors and this has been given; and all concerned are now confident that the deal will be accomplished.

"The work of appraising the property of Agency members lately called off and abandoned, has been resumed and is proceeding to a conclusion with all possible haste. There is, of course, no means whereby any member of the organization can be included in the merger against his will, although it is believed that terms will be found so favorable that a majority will enter. In fact, there seems to be a decided inclination on the part of Agency companies to be disposed, in advance, to accept the proposition provided examination discloses that all will be allowed to go in on a basis of exact equality proportionate to the several amounts of assets owned. The impression prevails that a combination of the sort suggested will serve to eliminate an enormous overhead expense the companies are now carrying in the aggregate and will enable other savings like purchases of supplies and so forth to be made."

So it may be that the end of the present Independent Agency is very near. As to how the Agency membership will take to the amalgamation—that's up to them.

INTEREST IN WESTERN COALINGA DISTRICT (Reported by Guy H. Salisbury)

There appears to be a revival of interest in what has been termed the "West of the Westside Field." C. W. Hall, a pioneer in that section of the territory lying north of Waltham Creek and west of Coalinga, made a number of locations through this section early in January of this year, having been encouraged by late geological experts of that district. As this section of the county is outside of the withdrawal orders of President Taft and Secretary of Interior Ballinger, this fact has again attracted the attention of oil men to the district. About 1901 the Whale Oil Company drilled two holes in the southeast quarter of section 4, 22-14. One hole was carried to a depth of 650 feet, the second hole was drilled to about 600 feet, the indications were not encouraging at the time and the lack of sufficient finance, with the further fact that a water sand was entered, carrying a salty or brackish water, discouraged the company. About this same period the Venus Oil Company drilled in a hole to 1,500 feet, near the south line of section 32, 21-14, without obtaining oil. At the time these holes were drilled it was claimed by a few geologists that they were drilled in a steeply, tilted and faulted section, offering no favorable structure for the concentration of oil, should it have occurred disseminated through the strata. Soon after these failures the Bohemian Oil Company and the Azores Oil Company, composed of Hanford men, and the Hub Oil Company, organized by Coalinga oil men, each drilled a well along the Jacalitos anticline. The Bohemian drilled its well near the south line of the southeast quarter of section 22, 21-15, to 3,735 feet, entering the first oil sand showing light oil. The hole was carried to about 4,380 feet to a second oil sand, showing a sand carrying about 38 B. gravity oil, containing a high quality lubricating units making it a valuable oil. A misunderstanding between the lessee and the lessor caused a suspension of operations. The Azores Oil Company drilled a well near the northwest corner of the southwest quarter of section 26, 21-15, to about 3,600 feet; two oil sands were passed through neither of which were fully tested; casing troubles caused a suspension of operations before the well was completed. The Hub Oil Company drilled a hole near the north line of the northeast quarter of section 22, 21-15, to about 4,300 feet; 50 feet of oil sand was passed through at about 3,600 feet; casing trouble caused the suspension of operation. From the many geological surveys made by the government and private parties it appears that these wells were drilled near a faulty section of the district. Other companies have drilled near for the oil sand that is indicated by the many oil seepages that occur through this west side section without encountering a paying sand. The high quality of the oil encountered in the Bohemian well, the report states, has encouraged a number of oil men to look over this section for a suitable location away from the faults noted.

Parkfield Prospect

The Monterey Oil Company, formerly the Oakshade Oil Company, operating on section 8, 23-14, Parkfield District, on the east side of Monterey County, E. G. Lewis, of Atascadero, manager, is putting in about 2,000 feet of small casing in order to test out the formation; the 5 5-8 inch casing now in the hole has encountered a heavy pressure of gas and mud with a showing of oil, and in order to free the 5 5-8 inch the small pipe will be set in and carried through the mud formation that is now causing trouble.

Standard Oil's Annual Report

The 1914 annual report of the greatest of California oil companies, shows a relatively small decline from the 1913 earnings. The 1914 earnings totalled \$12,771,398.42 after writing off \$2,713,060.66 for general depreciation, leaving a net profit of \$10,058,337.76.

The Company's report states its plants "have been maintained to the highest degree of efficiency." Dividends were paid at the rate of 10 per cent per annum on the issued capital stock, to the amount of \$4,856,098.22. **The surplus account for the year has been increased \$5,202,239.54.**

The Company produced from its own wells 12,727,391 barrels, a daily average of 34,869 barrels of oil for 1914. For 1913 the total production was 9,700,209 barrels, averaging 26,575 barrels daily. The increase in daily average was, therefore, 8,294 barrels.

Commenting on the large over-production of refinable crudes, the President's report states that the Pipe Lines Department constructed "about 8,000,000 barrels of steel tankage, built a new eight-inch line from the Whittier-Fullerton fields to El Segundo refinery and increased the capacity of the Richmond-Bakersfield line, making it now uniform from Midway to Richmond." Continuing, the report states:

"Our net pipe-line runs for 1914 showed a daily average of 109,949 barrels, as against a daily average of 85,902 barrels for 1913. Our own stocks of crude oil in storage December 31, 1914, were 26,058,077 barrels, an increase of 1,747,767 barrels over December 31, 1913. This stock was made up of an increase of over 7,000,000 barrels of light refinable crude, requiring the steel tankage above mentioned, and a decrease of over 5,000,000 barrels of heavy oil withdrawn from earthen reservoir storage."

The Richmond, El Segundo and Bakersfield refineries were extended and a new tanker, the "J. A. Moffett" was ordered constructed and is already in service. The output of the Murphy property was most satisfactory. The payments for the property have been extended over a term of four years. Taking up the matter of a stock dividend, the report states that the purpose of the proposed increase of stock from \$50,000,000 to \$100,000,000 was to have the capital stock "more nearly approximate the value of the Company's assets." But since the breaking out of the war, with the financial results so well known, it was decided with the financial results so well known, it was decided by the directors that it would be better not to declare had changed." Appended is reproduced a statement of the Standard's balance sheet at the close of 1914:—

ASSETS

Plant Account	\$65,415,338.26
Other Investments	80,000.00
Inventories	25,550,918.31
Accounts Receivable	4,930,184.13
Unexpired Taxes, Insurance, etc.	148,465.37
Cash	1,173,377.36
Total	\$97,298,283.33

LIABILITIES

Capital Stock Authorized	\$100,000,000.00
Less Treasury Stock	50,313,344.05
Capital Stock Issued	\$49,686,655.95
Accounts Payable	7,070,645.03
Capital Stock Premium Account	250,000.00
Surplus (invested as above)	40,290,982.95
Total	\$97,298,283.33
Profits for Year	\$12,771,398.42
Less Depreciation	2,713,060.66
Net Earnings, 1914	10,058,337.76
Dividends Paid, 1914	4,856,098.22
Carried to Surplus	\$5,202,239.54



The New Strikes In Alberta

Written Exclusively for the Derrick
By M. R. McLeod, Former Editor Alberta Mineral Age
(Written April 15)

Crude oil of paraffin base in commercial quantities is now an assured fact in the Alberta Oilfield. The bringing in of the Alberta Consolidated No. 2 well and the Western Pacific Company's No. 1 well, last month, has settled all dispute in this connection and would appear to be the opening events in the petroleum history of the Canadian West.

Inasmuch as the tankage facilities at the wells are inadequate to handle the oil, exact figures as to daily production cannot be accurately ascertained at this time. However, the Consolidated well has over 1800 feet of crude oil standing in the bore, which is lowered only a very small degree by frequent bailing. The company's first tank of 20,000 gallons capacity, is being rushed to completion, the filling of which should admit of an estimate by some one qualified to form an estimate; it is said that the well will produce several hundred barrels a day, but W. W. Stephenson, the California operator who is managing the property, refuses to commit himself to any definite prophecy in that connection.

The Alberta Petroleum Consolidated Company is a combination of about half a dozen companies controlling about 60,000 acres. The No. 2 well, where the strike was made, is on the adjoining section to the Dingman wells. Drilling was commenced on August 1st, last year and the oil encountered at a depth of 2774 feet. No gas is present. The Directorate of the Company consists of: E. A. Cunningham, president; D. J. Young, vice-president; W. W. Stephenson, manager; A. A. Moore, Fred Searson and C. A. Owens, directors.

The Western Pacific Company's well was brought in 12 days later than the Alberta Consolidated well. It is situated about 1 mile south of the Dingman, and 1 1-4 miles southwest of the Consolidated. At slightly over 2100 feet the well began to fill up and there is now 750 to 800 feet of oil waiting to be drawn off, which contains gas to the extent that the management

is fearful of drilling further until the oil is removed. A 12,000-gallon tank is being placed in position and will be in use in a few days. The Western Pacific Company, which was one of the earliest in the field, has a capitalization of \$250,000. The directorate consists of: Jas. B. Paterson, president; Jas. L. McKinney; vice-president and general manager; R. James Strachan, secretary-treasurer, together with a number of well known local business and professional men. R. J. Strachan organized the Western Pacific Co. and at a later date, the North Western Oil Co., whose well (No. 2) is confidently expected to strike oil within a few weeks. This well is situated slightly over 2 miles northwest of the Western Pacific.

Probably the most encouraging feature of the discoveries is the analysis of the product of these two wells. A laboratory test of the Consolidated oil is as follows:

Specification by Picnometer at 15.5 c (60 F.) is 0.8344 equivalent to 37.8 degrees Beaume.

The fractionation results show this to be due to the large proportion of heavy residuum left after 350 C.

Fractionation No. 1 yielded the following totals:

Gasoline fraction, Gravity 63.0 Be.	18.8 per cent.
Kerosene fraction, Gravity 43.7 Be.	30.6 per cent.
Lubricating fraction, Gravity 33.6 Be.	14.3 per cent.
Residuum, Gravity 21.4 Be.	34.4 per cent.

The large proportion of residuum above 350 C. is noticeable as compared with other oils so far found in this locality, which is accounted for by the heavier gravity of the crude oil. This residuum is a valuable product as it can be cracked into a further quantity of burning oils, leaving a heavy mineral stock for lubricating materials, solid paraffin extraction, etc.

Apart from the wells mentioned several are nearing the point where it will be decided whether a dry hole or a producer is to be the result of the winter's operations. Notable among these is the Southern Alberta Company's well, in which the Cudahys, of Omaha, are said to be interested. It is claimed that the indications at this well are very promising, several seepages of heavy black oil having been encountered during the past few weeks. This well is located one mile north of the Consolidated well. The Prudential well (the

nearest well to the Consolidated's producer) which recently had its surface works destroyed by fire, is estimated by Cunningham Craig to be the next most favorably location in the Dingman district. The Calgary-Alberta well, which has been shut down for the winter freeze-up, is expected to resume by the end of the present month. This is the property so favorably mentioned by a representative of the Dutch Shell Co., last year. It is located on the Pekisko anticline, 15 miles south of the Dingman field. A producer here would prove up the property of the Stirling Company, The Alberta Pacific Co. and a number of other big holders.

Ira Segur, the California operator, is drilling a well for some of the officials of the Grand Trunk Pacific Railway in the Sweetgrass District, almost on the International boundary, where he is reported to be in difficulties owing to a big flow of water.

Of the 40 odd wells started as a result of the boom

last summer about 20 have been closed down owing to the financial stringency, and the remainder are drilling actively, 8 or 10 of them seemingly very promising ventures.

When the basic facts of this new field are fully digested by American operators it may be safely predicted that a large number will go to Calgary to inspect the field. The character of the product so far produced is very encouraging and the fact that the Dominion Government pays a bounty of 54c. per barrel on every barrel produced cannot but impress the American operators. (A Canadian barrel is 35 gallons, 7 gallons less than the U. S. bbl.)

Calgary, the center of operations, is showing evidence of the outside world's interest in the discovery. British and American operators and field scouts are arriving every few days and the local stock exchange is trading oil stocks at the rate of 50,000 to 75,000 shares per day—of varying values from a fraction of a cent to thirty dollars per share.

Stupefaction of Fish by Gases in the California Coast County Waters

By A. S. Cooper, E. M.

It is a law amongst fishes that when one of them is disabled and cannot protect itself by fighting or flight, it is set upon by others and devoured. This predatory habit often results in wholesale slaughter.

Off the coast of California volumes of mephitic gases are often liberated beneath the sea by seismic disturbances, opening fissures in the bottom of the sea, through which these gases are discharged. If gill-breathing fishes are caught in water charged with these gases they are stupefied and become helpless. Other fishes rush in for a meal and in turn are stupefied. These act as bait to attract others, and in a short time many fishes are rendered helpless, although the volume of charged water is small.

Those amphibians that breath through their lungs, such as sea lions and porpoises, escape injury and have a great feast.

It is a wise provision of nature that the dead fish are eaten by others, otherwise the sea in a short time would become putrid with their dead carcasses.

In 1864 myriads of fishes were stupefied in this way, and came ashore, two or three feet deep on some of the beaches, between the cities of Monterey and Santa Barbara, California, a shore line of two hundred miles. Although this was the driest year that California has ever known, and provisions were scarce, the natives feared to eat the fish, thinking that they were poisoned.

Zaca lake, in the north end of Santa Barbara County, has an area of about 35 acres. The bed of the lake is not bowl shaped as is usual with lakes, but is circular in outline with a flat bottom, and its greatest depth is about sixty feet. At irregular intervals sulphureted hydrogen enters the lake, turning the water whitish, through its decomposition by the air. Fish and frogs have been placed in the lake several times, but were



ZACA LAKE—Fish cannot live in the waters of this mountain lake, owing to the constant escape of gas from the bottom, poisoning the water.

always killed later, when the sulphureted hydrogen entered the lake. In a number of places in the vicinity of the lake the cracks and seams of the shales are filled with bitumen. This lake is evidently a subsidence of recent origin, as it is but slightly filled with debris washed from the surrounding steep mountains.

Off point Purissima, Santa Barbara County, this phenomenon is often observed; helpless fish are seen floating on the water. In recent years stupefied fish floating on the sea have been seen off Halfmoon bay, San Mateo County. And fish have been killed by the same cause in the Petaluma creek, Sonoma County.

The gases that are destructive to fish are sulphureted and carbureted hydrogen, gases usually found in the oil fields of California.

The Settling Tank

Presenting Brief Resumes of Informative Bulletins, Addresses and Like Matter, Gleaned From the Most Reliable Sources.

Bulletin 69, Ablest Discussion of California Oil Industry Yet Penned.

Bulletin No. 69, dealing with the Petroleum Industry of California, is now being distributed to the public.

The publication consists of a five hundred page book and a separate folio of maps.

The State Mineralogist modestly says of this splendid work:

"In preparing this report a thorough review of the oil industry was made and all of the many phases of the subject are for the first time presented in a single publication. It is believed that the information will be valuable to all persons who are interested in any manner in the oil business of the State.

"The extent and productiveness of oil land in California is outlined. The cost of drilling wells and recovering the oil is gone into very thoroughly. The financial or business aspect of the industry has received special attention. * * * "

The Bulletin and Maps will be mailed upon request addressed to the State Mining Bureau, Ferry Building, San Francisco, California. The law requires that a charge be made to cover the cost of printing, which in this case is Two Dollars, and this amount should accompany the request for these publications."

The state mineralogist could hardly have said less of the work, which is a monumental effort, worth ten times the price, to every oil company in the state. The map folio is wonderful, nothing less. Following are presented facts about the map folio:

Bound with heavy brown paper cover, size 18 1-2 x 22 inches. Contains following plates and maps:

Plate 1. Correlation and characteristic fossils of Geologic formations of California coast range. Plate 2. Geologic map of portions of Los Angeles and Orange Counties. Plate 3. Geologic and oil field map of portions of Ventura and Los Angeles Counties. Plate 4. Geologic map of portions of Monterey and San Luis Obispo Counties. Plate 5. Geologic map of portions of San Luis Obispo and Kern Counties. Plate 6. Geologic cross sections through Monterey and San Luis Obispo Counties. Plate 7. Map and gravity chart of the Coalinga field. Plate 8. Map of the Kern River field. Plate 9. Map of McKittrick and North Midway Fields. Plate 10. Map of South Midway and Sunset fields. Plate 11. Map of Midway field showing topography, proved areas, structural lines and underground contours. Plate 12. Map of Lost Hills, Belridge and Devils Den oil fields. Plate 13. Map of Salt Lake oil fields. Plate 14. Map of Whittier-Fullerton oil fields. Plate 15. Map of Santa Maria Oil Field. Plate 16. Plans for standard and rotary rigs. Plate 17. Plans for earthen, concrete-lined oil reservoirs. Plate 18. Map of portion of California showing pipe lines and oil fields.

In addition to these splendid plates in the map folio, the lecture of James Perrin Smith of Stanford University on "The Geological Record of California," is reproduced from the Journal of Geology. It is undoubtedly

edly the most comprehensive brief discussion of this subject yet written, and completes the folio's scope in a manner leaving nothing to wish for. In connection with the plate showing "Fossils Characteristic of California Formations," there is presented a key giving the particulars concerning each of the 53 specimens.

The maps themselves are unusually good specimens of work, done in five and in some cases, more colors, with a care and exactness difficult, if possible, to surpass. Some inaccuracies usually develop in works of this nature, but in this particular set of drawings the opportunity for fault finding appears very limited. Excellent paper has been used and as a result every drawing stands out, clear cut and pleasant to study.

The plans for the standard 160-foot and 80-foot rigs and the combination standard-rotary 106-foot are complete to the smallest detail. A list of every piece of material entering into their respective make-ups is printed alongside the drawings of the completed derricks.

The 750,000-barrel reservoir plans are drawn with the same exactness and care as the others in the folio. There is little to be said however, that can give a true idea of the worth of this work, but unquestionably as it becomes known, it will be in such demand as to quickly exhaust the supply. It has the "real stuff" in it—the best and most accurate information yet published relating to the world's greatest oil fields and the latest methods of developing the same.

TECHNICAL PAPERS

Technical Paper of Probable Interest to petroleum chemists, just published by the bureau of Mines, is "Coal Tar Products and the Possibility of Increasing Their Manufacture in the United States," 21 pages, by Porter and Storm.

Bulletin 90, Bureau of Mines, consists of "Abstracts of current decisions on mines and mining, December 1913 to September 1914, by J. W. Thompson."

"**Mines and Mineral Resources of Imperial and San Diego Counties**," is the title of a bulletin just issued by the California State Mining Bureau, describing in thorough manner the subjects dealt with.

Parkfield Property.

A 165-acre tract of prospective oil land in the Parkfield District, Monterey County, is offered for sale by Frank La Vine, 131½ N. Broadway, Los Angeles, Cal. The property is close to drilling operations and is a first class prospect. The big money comes in the discovery. Particulars furnished on request.

Oil Lands for Sale or Lease !
Tide-water, Santa Barbara County
A. S. COOPER, Santa Barbara, Calif.

California Derrick

The Oil Authority of the Pacific Coast

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

Change of Management.

After five consecutive years spent in serving the readers of this publication, I am accepting the offer of responsible parties to purchase "The Derrick," only because other duties assert a stronger claim upon my time. It is my belief that the services of my successor will more than satisfy the many readers who have stayed with the Derrick year in and year out since I assumed the editorial responsibilities. At the same time that I express my appreciation to the readers and especially to the splendid firms who have seen fit to support this publication by advertising their products herein, I bespeak for my successor the same support because I feel certain it will be more than merited.

All outstanding accounts should be made payable to the California Derrick and mailed to A. J. Mackey, 509 Sansome Street.

Thanking again the readers who have made the publication of this magazine possible, I am respectfully,

CHARLES CARROLL WRIGHT.

With the May issue of CALIFORNIA DERRICK will come a change of ownership and management. The interests of Charles Carroll Wright having been purchased by Dr. Clarence E. Edwards and A. J. Mackey, and hereafter the editorial management of the California Derrick will be in charge of Dr. Edwards, while the business management will be in the hands of Mr. Mackey.

Dr. Edwards is widely known throughout the west as a virile and analytical writer on industrial subjects, and he has given especial attention to the study of oil production and distribution, having made personal examinations of every oil field in the west.

Mr. Mackey has been connected with the Mackey Company of San Francisco for many years and has an invaluable experience as a publisher and business manager which will go far toward placing the California Derrick at the head of this class of publications.

The aim of the new owners of California Derrick is

to keep it in the enviable position it has always maintained as the Oil Authority of the Pacific Coast.

For the time being the office of the California Derrick will be located at 509 Sansome Street, telephone Sutter 2984.

The Next Issue of The Derrick.

The next issue of the California Derrick will come from the press as near the 20th day of May as possible and all changes of address in the mailing list and advertisements should reach us at least two days previously.

COMMENT ON DEVELOPMENTS OF PAST MONTH

Unexpected Legislation

With the single exception of the introduction of the Carr Bill in the State Senate, there have been no startling or unusual developments in the California oil situation this past month. The Carr bill is, however, very much out of the ordinary. It proposes to regulate the industry through the regulation of storage and vests absolute control of storage conditions with the State Railroad Commission. Such being the case, strong opposition to it has developed. The Derrick re-publishes this law—notable for its brevity—elsewhere in these columns.

Postponement of Agency Meeting

The Postponement of the Agency meeting—scheduled for the 15th inst., because of lack of quorum, betrayed an apathy on the part of the directors hard to account for in a body supposedly so unified, but, with such an immense directorate, innumerable situations may arise to prevent the attendance of quorum. Passing comment is probably easier than attending such meetings.

Apparent Collapse of Merger Vision.

The much discussed \$100,000,000 merger vision seems to have gone a glimmering. The bubble broke against the rocks of common sense; few could see any profit in merging heavily over-capitalized corporations into one grand over-capitalization incorporating all the Agency companies. It is related that M. L. Requa asked one Agency director why he did not warm to the proposal that his company should join the merger and that the latter replied, that as his company was earning dividends and in excellent physical shape in spite of the inability of the agency to dispose of all its product, he preferred the certainty of the present to the roseately-painted future. Whereat according to our informant, Mr. Requa inquired if it could be shown that the combine would start not only unencumbered but with \$20,000,000 cash in the bank, would the Agency director then change his view? Yes, he would,—when he was shown the twenty-million! Mr. Requa, it is said, could not pull 20-million from his clothing and the Agency director retains his views, along with the balance of the directors of the companies who were besought to enter the vastest competitor of Standard Oil. Alas, this is an era of skepticism!

Gushers Few—Field Developments

Gradually the vast majority of the State's great gushers have quit their spouting and have settled down to 200, 300, and 500-bbl. per day wells. This is undoubtedly responsible for the new drilling shown by the Agency's statistics to have increased rapidly in March, when 136 strings were operating in new holes, 8 more than during the previous month. Not only

this but there were 30 more producers in operation. The result is shown in the 600,000-bbl. increase in production, (Agency figures) which totalled 7,567,197 barrels for the month. Stocks March 31 are placed at 59,535,000 bbls. The Standard report has not yet come to hand. Reverting to the subject of new wells and individually large outputs, the only gusher brought in last month was the Belridge Oil Company's strike in their test hole on property division 3, six miles north of the company's main camp and about 23 miles north-west of McKittrick. This well created a feeling of excitement reminiscent of early-day strikes, on account of the fact that the quality of the oil is very high—35-gravity—and extends the Belridge field considerably. The flow at present is reported as 600 bbls. daily from 3100 feet depth. The Kern river front has been proven a deep field of great fuel oil potentialities by the Standard Oil test well, referred to elsewhere.

Jitney Buses Aid Industry

Reliable parties estimate the increase in the gasoline demand throughout California to supply the jitney buses now in operation in every city, at from 20 to as much as 30 per cent., while a corresponding increase in the use of lubricants is also declared to have resulted. This new demand exerts a very beneficial effect on the sales department of the refiners and, naturally, helps the industry "right down the line"; and without doubt the friendliness displayed by some of the greater metropolitan papers towards the jitneys is due to the advertising done by the marketers for their custom. Street car companies do no advertising—at least, not in comparison.

Present Situation of Oil Relief Legislation.

The Maddux Bill, protecting oil fields from water, has been reported out of the Senate oil committee with recommendation that it pass. It has been re-referred to the finance committee. There is no opposition to the bill, so its passage is almost a certainty.

Extraordinary Bill Introduced In Senate To Regulate Industry Through Storage Control.

The Independent Oil Producers Agency is believed to be behind the following remarkable bill introduced by Senator Carr on April 15, and referred to the committee on Oil Industries, and which will, if passed, provide an absolute regulation of the industry by the State Railroad Commission, more drastic than any yet proposed in the matter of curtailing the output.

The proposed act follows:

Section 1. (a) The production or the storage of crude oil or petroleum in the State of California, in such manner, under such conditions or in such quantities as to constitute waste, is hereby declared to be destructive of the natural resources of the State, and is prohibited.

(b) The term "waste" as used in this act, in addition to its ordinary meaning, shall include economic waste.

(c) The taking or removing of crude oil or petroleum from any oil-bearing sands or oil-bearing measures in the State of California, at any time when the market demands, or the reasonable storage demands, therefore are such that the public requires no immediate use of such oil, or when no public convenience will be served thereby, is hereby declared to constitute economic waste within the meaning of this act.

(d) The storing of crude oil or petroleum, at any

time, by any person, firm or corporation, in unreasonable quantities, shall also constitute economic waste, within the meaning of this act.

Sec. 2 (a) The railroad commission of the State of California is hereby vested with power and authority, and it is hereby made its duty, to establish rules and regulations, to conduct investigations, and to hear and determine all questions of fact, and to make and enforce all decisions and orders necessary or proper for the determination and the prevention of such waste and for carrying into effect the provisions of this act.

(b) For the purpose of preventing waste, within the meaning of this act, said commission may, by rules and regulations or orders, limit the quantity of either or both the production or the storage of crude oil or petroleum, at any time and in any cases, in such manner and to such extent as shall be just and equitable, and without discrimination.

(c) In the exercise of its powers and in the administration of its duties hereunder said commission shall follow the same procedure and shall be vested in all respects with the same and equal powers, and may impose the same punishment for disobedience of its orders, and may pursue the same remedies for the enforcement of compliance with its rules, regulations, decisions and orders made hereunder, or for the prevention of violation thereof, as are or hereafter may be prescribed or conferred upon it by the "Public Utilities Act" of this state or by any amendments, re-enactment or revision thereof, for or in connection with the investigation, holding of hearings, supervision, regulation and control of, and the enforcement of its orders respecting public utilities; and the lawfulness of all orders and decisions of the railroad commission, in the exercise of the powers conferred upon it by this act, shall be subject to review by the supreme court of this state by writ of review, to the same extent and within the same times, and in all respects according to the procedure, now existing or hereafter established for review of the orders or decisions of the railroad commission under the "Public Utilities Act" of this state, or any re-enactment or revision thereof.

Sec. 3. (a) All production and all storage of crude oil or petroleum in the State of California, shall at all times be subjected to the provisions of this act and to the rules, regulations, decisions and orders of the railroad commission made pursuant to this act.

(b) All producers and all storers of crude oil or petroleum in the State of California shall be subject to and shall at all times comply with the provisions of this act and with all rules, regulations, decisions and orders of the railroad commission made pursuant to this act.

At the hearing held in Sacramento on April 23, L. P. St. Clair, president of the Agency, spoke in favor of the passage of the bill, while a representative of the "Shell Company of California" declared the bill a menace to its business as it desires to develop its properties and accumulate a surplus of oil in storage. The reports from Sacramento were, however, meager in the extreme.

Union Oil Company has been granted permission by the State Railroad Commission to issue \$3,000,000 of stock at \$85 per \$100 share, to the English investors who would have purchased the control of the Union, through Messrs. Andrew Wier and R. Tilden Smith, if the war had not spoiled the transaction. The issuance of the stock concludes the negotiations.

Interesting Developments of Recent Date

\$20,000 per annum for a Petroleum Department in the State University is requested in a bill by State Senator Chandler. The school will be operated, according to announcement, in conjunction with the U. S. Mining Station.

U. S. Navy used 600,000 barrels of fuel oil in 1914 as compared with 360,000 barrels in 1913. 70 per cent increase.

The "Maumee," giant oil tanker for U. S. Government, was launched amid scenes of immense enthusiasm at Mare Island on April 17.

Associated Oil and Pipe Line Co., have petitioned the State Supreme Court for a review of the Railroad Commission's hearing. The ground alleged is that the pipe line acts of 1913 are confiscatory.

Pipe Line Decision. The State Railroad Commission has decided that pipe line companies will not be required to "move any and all oil indiscriminately without regard to grade." It is understood by this that an oil company or individual desirous of using the pipe lines to transport oil must either run the same grade of oil going through the line or wait until a grade similar to his product is being run.

General Petroleum Company has chartered the tanker "F. H. Buck" from the Associated Oil Company, and is using it to transport kerosene to China. The Shell Company purchases the kerosene and markets it in the Orient.

Australasian Trade Good. Announcement of a great shipment of case goods to Australasian points on the freighter Wyandotte developed the information that the Standard, Union and Associated Companies are all finding an increasing market for their products in the great South-Sea-English-speaking continent.

Fuel Oil Service at Panama Canal. Fuel oil will be furnished ships passing through the canal at \$1.25 per barrel, taken at Balboa and Christobal.

Interesting Santa Barbara County.

In times gone by the Derrick has published many an article by Hon. A. S. Cooper, former state mineralogist of California and now of Santa Barbara. Most of Mr. Cooper's articles related to the Coast Oil Fields, particularly to Ventura and Santa Barbara counties. For some time back Mr. Cooper has not written anything, but in this number he again calls attention to Santa Barbara County in his account of the stupefaction of fish by oil gas, which hints at the location of possible new pools of both gas and oil. For two years past Mr. Cooper has studied the territory north of Santa Barbara channel, and what he doesn't know about it, would not amount to much. Mr. Cooper has promised no more articles on this district.

The Exposition is just brimming over with exhibits pertaining to the oil business—best way to learn is to see 'em. Everything worth a whoop seems to be in evidence. Enough said.

CALIFORNIA CONCENTRATES

Coalinga-Mohawk Oil finished its No. 6 on section 12, 20-15 with an initial flow of 900 barrels, after shutting off water at 4400 feet. The oil is 31.5 gravity, free from all impurities. Well is now doing 600 barrels daily and is considered "some strike."

February Exports from California amounted to 27,663,730 gallons, valued at \$881,467. Not so bad in war times and for the shortest month.

Combined Oil Company has recently reduced its indebtedness by \$6000, largely through the sale of its surplus oil. Company is being ably and honestly managed.

Potash in California. U. S. Geological Survey states that "Searles Lake offers the most promising source of commercial potash in the United States."

Birch Oil Company has purchased 760 acres lying north of the developed section in the Brea Canyon field. This is the old "Puente Crude Oil" property, where several shallow wells were drilled without commercial results and the company went broke. It is probably deep territory. Ten years ago the Midway produced little oil, that of heavy character from shallow wells. Deep drilling has revolutionized the industry.

Olinda Land Co., paid \$10,000 dividend on April 20,

United Oil also has returned to the dividend basis, with a similar payment. \$10,000.

Claremont Oil Company's annual report for 1914 shows a decline in production of 40 per cent in the Coalinga wells and 22 per cent in the Kern River wells, the total output being 185,645 barrels. The company figures a loss of \$14,135.70 on the year's operations, including a \$33,000 depreciation, deducted from total income of \$66,000. A hard year.

Palmer Union Oil Co. is cementing off the water in No. 7, a new well down 1250 feet. No. 3 is making a good steady flow, on air, and Nos. 2 and 4 are doing the same as usual. Well No. 1, the famous gusher, is now no longer "No. 1" as a new No. 1 has been drilled about 300 feet from the old No. 1 and is now reported on the pump. This well may restore the big production of earlier days, after a time, when it has been pumped awhile. Old No. 1 started in slowly, then did 10,000 barrels daily for months.

Much Prospecting Work, Says Mr. Salisbury.

Major Guy Salisbury writes from Coalinga that there is considerable prospecting work being done in Santa Clara County. About 2 1-2 miles southeast of Los Gatos the Paraiso Oil Co. has a well down 700 feet. Another well is being put down north of Gilroy, in the so-called "Sargent District," by J. M. Kellerman. It is down 2700 feet and has passed through two oil sands. In Moody's Gulch, west of Alma, there are 7 wells reported on the beam, making from 17 to 18 barrels daily of 48 gravity oil that retails at \$4.00 per barrel. Three new wells will be drilled here immediately, material being already on the ground.

DEVELOPMENT NOTES

Brea Canyon Oil Company, in Brea Canyon, is completing the installation of a dehydrating plant, Chas. Stone, former superintendent of Monte Cristo Oil Co., being in charge of the work.

Amalgamated's April dividend, payable the 24th will be for 75 cents per share only, a drop from the \$1.25 per share paid monthly for a long time back. The West Coast, however, continues to maintain its regular \$1.50 rate, so that Associated management cannot be taxed with a general curtailment by any means.

Union Oil Doing Development Work. According to authentic information the Union is now the most active developer of new wells in the state. Its drills are going in nearly every field. The latest wells to be ordered drilled are three on the Graham Loftus lease in Brea Canyon, which the lessors insist shall be drilled in accordance with lease requirements.

Quintuple Oil Co.'s well on the Gualdin property, Placentia, has gone into an excellent oil stratum, but punctured a water stratum above and before the oil can be obtained, water must be shut off. Work on this job is in progress, though often delayed by the oil flows. The well gives promise of an excellent production.

Mascot Oil Company has started working on three new wells in order to supply its contract with Standard Oil Co.

State's Permission granted for Stock Issuance. The Valley Pipe Line Company (Shell Co.,) has been authorized to issue \$5,318,000 stock to enable it to construct its pipe line from Coalinga to Martinez, 175 miles. The Standard Oil Company has received permission to issue \$4,768,000 stock to cover improvements at Richmond and El Segundo, and generally over the system. This will bring outstanding stock to \$54,454,655.35. The dividends per annum will thus climb by \$476,800. San Joaquin Light and Power Co. has received permission from the Commission to issue \$3,000,000 securities to cover completion of the extension of its power lines into new districts in the valley.

The Stock Market.

The interest in oil stocks shows more animation than for a long time past with West Coast preferred the high-cockalorum among the \$100 stocks at \$96.25 bid. Next to West Coast preferred, is Western Union, \$74. bid, followed by Amalgamated, \$59.50 bid and \$61 asked. It will be noted that all these stocks lead Union Oil, for which \$52 is bid, \$54 asked. Union has rallied since the recent report on finances was given out. Union Provident is 50 cents lower in the bid-ask column than Union Oil, and for United Petroleum \$51 is bid. Associated still hangs around the \$38-\$40 mark. In the dollar par stocks, 90 cents is asked for Caribou, 79 bid for Columbia, 58 bid for Coalinga Mohawk; 2 bid 6 asked for Illinois Crude, 5 cents asked for Jade, \$1.50 bid for Lucile, 75 asked for Mascot, 12 bid for Midway Northern, 20 asked for New Pennsylvania Petroleum, 18 bid and 28 asked for Olinda Land Co., (oil), 1 cent bid for Palmer Union, \$1 asked for Rice Ranch, 5 cents bid for S. W. & B., \$16 bid for Traders Oil and 21 cents bid, 22 asked for United Oil Co. Oil stocks are much livelier than for some time past.

Another Score for the Derrick was added to the long list of "beats" on reliable information when this publication presented in its issue four weeks ago, the report of the achievements of Dr. Walter O. Snelling, of Homewood, Pa., in treating oils. Our report was the first intimation Western refiners received that the Bureau of Mines Chemist, Dr. Walter F. Rittman, was not alone in the discovery field when it came to petroleum chemistry. The Derrick printed an article last year describing the discoveries of a California chemist whose claim was substantially the same as that made for Dr. Rittman by the Bureau of Mines. But, not having any backing, his labors received no recognition.

Crandall vs. Matson Suit. L. A. Crandall's suit against Capt. Wm. Matson, brought in a local court, asking \$400,000 damages, was brought to a conclusion on April 15 by the jury's verdict in favor of plaintiff for \$40,000, a tenth of the amount asked. Cause of suit as alleged by counsel for Crandall, was an understanding by which Mr. Crandall negotiated the purchase in 1909 of Midway Oil Lands for which he was to receive payment in the shares in the Honolulu and Hawaiian Oil Company. He received the stock, but, becoming pressed for money, put it up as security for a loan from Captain Matson of \$10,000; that Capt. Matson refused to return the stock upon re-payment. It is said Mr. Crandall will institute another suit, not being satisfied with the \$40,000 award of the jury. Capt. Matson stated in the defense, that Mr. Crandall owed him \$10,000 and he owed Crandall nothing.

Wyoming Oil Outlook for 1915 is reported by the "Wyoming State Journal" as more prosperous than at any other time in the State's oil history. Several new fields have been opened up promisingly in what is known as the Basin country, and prospecting work is being done in several districts, notably in the Alkali Butte and Maverick Springs districts. The main question is, is there a market for more oil? That's what worries the prospectors and halts their operations more than any other consideration. The Moorcroft Oil Field, 12 miles north of Moorcroft, is reported by the Geological Survey is unlikely to figure commercially, less than \$1000 having been realized from \$200,000 invested in development work. For this reason, this district does not appeal to prospectors.

Union Oil's Exhibit at the Exposition, is very interesting. In addition to the large geological exhibit there is presented a remarkable composite panoramic view of the oil industry as a whole, in a building especially constructed for this purpose in the center of the Union's block, which is directly north of the Standard Oil exhibit, in the Mines and Metallurgy Palace. The composite panorama shows a refinery on Salt Water front, in appearances very similar to the Union's Oleum refinery; a gusher in action, oil field scenes, sufficiently different in character to suggest the different state fields. Tank car train and such scenes as are characteristic of the industry generally, the whole set in scenery unmistakably Californian. A splendid piece of work.

Turning a Tree into a Newspaper.

How long it takes to turn a tree into a newspaper was recently demonstrated by a practical test at a wood pulp, and paper factory in a Continental city. A notary public and other witnesses were called, and at exactly seven-thirty-five o'clock in the morning operations were begun in a forest near the factory by felling three trees. These were stripped, cut to pieces and reduced to pulp by mechanical means. The pulp was thrown into a tub and mixed with the ingredients required to turn it into paper. The paste thus formed was passed through the rolling machine, and at nine-thirty-four o'clock—one hundred and fifty nine minutes after the felling of the trees—the first sheet of paper issued from the machine. The paper was hurried to a printing house more than two miles away, where the type had already been set, and at ten o'clock, two hours and twenty-five minutes from the beginning of the experiment in the forest, a printed newspaper was turned out from the press.

Origin of the Dollar Sign

The earliest known occurrence of the \$ in print is in an American arithmetic, Chauncy Lee's "American Accountant," published in 1797 at Lansingburg. This fact was pointed out in 1899, states a writer in the Popular Science Monthly. A recent writer again calls attention to this arithmetic and then, with sweet simplicity of mind, conveys the idea that this publication constitutes the true origin of the dollar mark. By this mental shortcut he saved himself the drudgery of a research, which in our case has extended over several years.

About 1800 the symbol began to be used freely in print and in writing. On September 29, 1802, William A. Washington wrote a letter on the disposal of part of the bottom land above the Potomac belonging to the estate of George Washington. In this letter there is mention of "\$20," "\$30," and "\$40" an acre. In this article it has been established that the \$ is the lineal descendant of the Spanish abbreviation "ps" for "pesos"; that the change from the florescent "ps" to \$ was made about 1775 by English-Americans who came in business relations with Spanish-Americans and that the earliest printed \$ dates back to the year 1797.

Banking in Trinidad and Tobago, British West Indies

Banking in the colony of Trinidad and Tobago, British West Indies, showed a slight improvement for 1913 over 1911-12. The principal banks of the colony are the Government Savings Bank with its 14 branches and branches of the Colonial Bank of England, the Royal Bank of Canada. Gordon, Grant & Co. conduct a private bank, with a capital, paid up, of more than \$2,000,000.

A dual monetary system obtains, the notes in circulation being in dollar denominations, whereas the coinage is that of Great Britain, pounds, shillings, and pence. The English pound sterling is accepted as the equivalent of \$4.80 in all business transactions.

American gold and currency are generally accepted in the stores at par, but the banks and steamship companies usually make a discount of 8 cents on every \$5. American subsidiary coins are not accepted in any transactions.

The local banks pay 3 per cent on time deposits, and make loans on real estate at 6 per cent. There are no usury laws in the colony.

Government Standard for Weighing Precious Stones.

The Bureau of Standards, U. S. Department of Commerce, announces the adoption of the metric carat of 200 milligrams as the standard weight for diamonds and other precious stones, and this standard will be used in the certification of all carat weight submitted to the government for certification after that date. The Treasury Department also adopted this standard on the same date for use in the customs service in levying the duties on gems. This standard is now international, being in use by Spain, Italy, Bulgaria, Denmark, Norway, Japan, Portugal, Roumania, Switzerland, Sweden, France, Germany, Holland and Belgium. England is the last important country which has not yet adopted the change, but its adoption is expected in the near future. By the Government tables, weights in old carat can be determined in the new unit and vice-versa if the weight in the old unit is known. The famous Cullinan diamond which, uncut, weighed 2024 3-4 carats is found by these new tables to be equal to 2078.41 carats.

Minnesota leads all other states in the production of iron ore, its marketed output for 1913 being 36,603,331 tons valued at \$61,805,017. It ranks ninth in the total value of its mineral production.

Statement of the ownership, management, circulation, etc. of California Derrick, published monthly at San Francisco, California, for April 1, 1915. Editor, Chas. Carroll Wright, San Francisco, Cal. Managing Editor, Business Manager, Publisher, Charles Carroll, Wright, San Francisco, Cal. Owners: Chas. Carroll Wright, 340 Sansome St., San Francisco, Cal. Known bondholders, mortgages, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities, None.

CHARLES CARROLL WRIGHT,
Owner.

Sworn to and subscribed before me this 31st day of March, 1915. T. L. Baldwin, Deputy Clerk U. S. District Court Northern District of California.

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PRACTICAL IDEALS

(By George Otis Smith, director United States Geological Survey.)

"Practical Ideals" is more than an apparent contradiction of terms—it is the real thing that the world demands. The practical ideal is the ideal in its everyday form that has the power to uplift because it is firmly braced on the ground.

Altruistic democracy is not a meaningless phrase. The Declaration of Independence begins with altruism in the appeal it makes for the pursuit of happiness. Democracy in its essence means equality of opportunity; its function is to build up to the higher plane, not to cut down to a dead level. And in our Constitution, the declared purpose to "promote the general Welfare" is a guarantee that this nation takes no narrow view of business questions such as those now before the American people. It is in human welfare that ethics and economics find common ground.

Too much stress cannot be placed upon the human factor in these problems. The student of politics does well to think less of artificial measures of value, to talk less of monometallic or bimetallic standards and to realize that the human standard is the real measure. Reduced to lowest terms, property, whether real or personal, gold or silver, prairie land or skyscraper, derives its value from what man's labor has put into it or can take out of it.

A working minority of American citizens have come to realize that unregulated private monopoly and good citizenship are antagonistic terms. And, now that popular clamor is giving place to sober second thought the other side of the monopoly question is receiving the consideration it deserves; there is a widespread recognition of the common interdependence of big business and the general public. On the one side, the people are realizing that they are and have been in reality silent partners in big business, and now that there has come the promise of some regulation that will in large part prevent monopolistic centralization, the people are interested in getting their share of the returns which can come only with operation at a profit. On the other hand, the managers of the large corporations, who are really the trustees of the investing public, are beginning to see that a certain financial security goes with public confidence. The public can not be left out of the reckoning, and that well-remembered attitude toward the public so tersely expressed 30 years ago by a pioneer in railroad affairs, does not pay dividends today.

To whom, then, belongs the reward of efficiency? I find a simple answer to that question in the opinions of the higher courts, in the decisions of public utility commissions, and in recent or pending legislation. Industrial enterprises as conducted by corporations, are inherently cooperative. Owner, workman, and consumer are in reality partners, and as such deserve to share in the profits. The public can demand low prices only after adequate profit has been provided for capital and fair wages for labor. This basal principle of profit-sharing among all three partners seems to me the cornerstone among the practical ideals of the present day.

The trouble with too many of the business men of the day, and especially with those who come to Washington to oppose new legislation, is their nearsightedness. They can not see country-wide public opinion and do not appreciate the obvious fact that the financial centers are not also the centers of national thought. The result of this, as I expressed it in conversation last winter with a New York gentleman who was largely interested in water-power development, is that the business interests oppose something at one Congress which two years later they would accept; but the next Congress is already considering a more advanced legislative proposition. We are all more or less progressive, I told him, but the opposition has been just one lap behind.

The bright light of publicity is coming to shine more and more upon the inner workings of all private business which has anything of the public-service character. Only about three years ago, at a conference on water-power policy, I heard the representative of the banking houses interested in the hydro-electric business tell the Secretary of the Interior with considerable warmth of spirit that one thing the men who make possible the development of our country by their contribution of capital would not stand for was any legal requirement of inspection of their accounts by the government. A corporation has its rights, they continued, just the same as a private man in business. Last year in the same room, when the utilization of a large power site owned by the government was being discussed, I heard those asking for the permit dismiss the question of federal inspection of their books with the remark, "That need not be discussed: our books will of course be always open to any authorized representa-

tive of the government." The ultimatums pronounced by the ambassadors from Wall Street, State Street, and West Adams Street, are short lived in the present atmosphere of popular interest in these business questions.

We need to see ourselves and our day in the right perspective. Men of vision are what the world needs, but vision alone will not suffice. It was not a Darins Green, but Professor Langley and the Wright Brothers who taught men to fly.

It is simply axiomatic that the world has reached the stage where science has entered everyday life to a degree that even our fathers never dreamed. Physical forces and natural resources are harnessed to the use of man, and the miracle-workers who can control these Titans are essential members of the body politic.

The compelling argument for engineers to step forward as citizens is the evident fact that politics has not kept pace with science. Take the political conditions of this or any other country, of this or any other day. They are characterized by uncertainty, confusion, and hazards that the business man would a once cut out of his own business and should eliminate from the nation's business. On the king's highway of ancient times slaves worked without respite to make smooth the path for royal use, and today the American railroad invests millions to straighten curves or reduce grades, but on

our political right-of-way obstructions and obstacles which make all progress expensive, if not uncertain, are allowed to remain simply because these so-called institutions are our heritage from our fathers and our fathers' fathers.

The scientist who simply seeks truth for truth's sake will surely lose the larger part of life, for truth that serves man, science that benefits humanity, is the only kind whose quest is worth making a life-work for a man with red blood.

The most philosophic of American geologists, Professor Chamberlin, after studying exhaustively climatic conditions in the long geologic past and after weighing carefully the possibilities of disaster to our earth from collision with some star, has shown that we have good reason to measure the future habitability of the earth at millions or tens of millions, if not, indeed, hundreds of millions of years. Sharing Professor Chamberlin's inspiring belief in the probability of racial longevity, do we not gain a real incentive to scientific research into the great utilization of the forces of nature, an added argument for the application of the truths of science to civic progress, and a larger faith that the Golden Age is in the future—that the highest development of our country and of the world is to be witnessed by those who are to follow us? Are not our ideals practical and is not such a vision a call to larger service?

Increasing Demand for Fuel Oil.

During 1914 there were received at Palermo 1,500 tons of fuel oil, but the demand is steadily increasing owing to the more general use of heavy-oil motors. The market is controlled by the Societa Anonima Importazione Olii di Genoa, which constructed in 1914 a reservoir of 3,500 tons capacity. It is built on the dock, and the oil is lifted into it by pumps having a capacity of 80 tons per hour. The oil used is known as "residues from distillation of heavy oils."

Sticky and brackish. Specific gravity higher than 0.925, at 15 deg. C. Containing more than 20 per cent (in capacity) of products distilled up to 310 deg. C. Specific gravity of such distilled products not lower than 0.885, at 15 deg. C. Inflammability as determined by Martens-Pennsky apparatus must not be lower than 100 deg. C., nor higher than 150 deg. C. Must contain more than 15 per cent of tar and resinous materials, precipitable with concentrated sulphuric acid.

Roumania has been the source of supply for the most part, but recently a shipment was received from Mexico. Fluid oils are received from various sources, but their consumption is limited, not amounting to more than 20 tons per annum.

The price of "residues" at present is \$3 per 220 pounds, as compared with \$2.03 during 1914. Fluid oils that formerly cost \$6.56 per 220 pounds now cost \$7.72. There is no stock of either kind on hand at present.

Oil is pumped direct from the reservoir to the ships. The depth of water alongside the dock where the reservoir is situated is 21 feet.

(The names of three Palermo dealers in coal and of three who handle fuel oils may be obtained from the bureau of Foreign and Domestic Commerce or its branch offices.)

Hard Times in Mexico for Oil Men.

A letter has been received by Homer Hennage, of Maricopa, from Boyd Erieson, an old time driller of the Maricopa district, who has spent the past two years in the Tampico district in old Mexico, in which he gives

an insight into conditions under which oil men are compelled to work in the war ravaged country.

In this letter Erieson states that ranchers and oil men have been robbed continuously by soldiers, who overrun the country, and that the farmers have given up trying to raise crops as everything is either destroyed or confiscated by the soldiers as fast as it is grown. Food in the district is very scarce, and Erieson says that the oil men have had no bread or tortillas for more than three weeks. Cannonading can be heard at all times from his camp, and although many battles have been fought near there the only damage that has been done by these bloodless encounters is to property and additional hardship to the natives and people. He says that Mexican money is selling at the rate of \$15 for \$1 of American gold. Even at that it is impossible to get the gold.

Maricopa, Cal.—Plans for the development of the new lease purchased by the Monte Christo Company in the Buena Vista hills, adjoining the Honolulu Consolidated property, have been completed and a new well will be started on the property some time this month. L. T. Thompson has been placed in charge and will superintend the development work.

The Montebello Produces a "Freak"

The Montebello Oil Company, the largest petroleum producing company in Ventura county, California, has brought in a "freak" well in the Barsdale district. It is so designated because other wells in the immediate vicinity have shown no such flow. This well is by far the best one brought in by the company. It flows 500 barrels daily, the oil testing about 34 degrees gravity. Other wells will be drilled to the sand, which was encountered on the Shields lease at a depth of a little more than 2000 feet.

Mexico's Enormous Oil Production

The magnitude of the Mexican oil industry may be judged from the statistics given for the past year in the Mexican Year Book for 1914. During 1913, development work in the oil field was remarkably active considering the unsettled condition of the country. It resulted in the bringing in of several large wells in the neighborhood of the Mexican Eagle Oil Co.'s great gusher at Potrero del Llano. Another interesting development was that of the Topila field, near Tampico, says the New York Journal of Commerce.

Some idea of the preparations which have been made may be gained from a comparison of the lands held in fee or lease in the Tehamtepec Isthmus region with those held in the United States for oil purposes.

The entire area held in the United States for oil and gas purposes in 1911 was 8,322,862 acres. The corresponding area in the Tampico region alone of Mexico at the present time is approximately 5,000,000. At least three individual companies operating in the Tampico region each hold a greater acreage than that reported for the state of California.

The estimated production of petroleum in 1913 was 26,000,000 barrels, as compared with 16,558,215 barrels in 1912, which made 4.71 percentage of the world's production. From 1900 to 1906 the output averaged 1,000,000 barrels. The Mexican Eagle Oil Co. and the Mexican Petroleum Co. again contributed more than 90 per cent of the yearly total output. The oil is of a low grade and therefore cheap. At the end of 1913 there were more than 20 separate fields in the Tampico region. An account of the early stage of the oil industry in Mexico was given in the Liverpool Journal of Commerce from a lecture by R. P. Brovsson.

Between 1880 and 1883 two companies began to drill at Cerro Viejo and Chapopote, in the Tuxpan district.

Between 1899 and 1902 the Mexican Petroleum & Liquid Fuel Company (English interests) drilled some 18,000 feet of hole in the Tecoluta Valley, just to the south of Cujas (Furbero).

About the same time Messrs. Doheny and Canfield came from California and started operations at Ebano, some fifty miles to the west of Tampico on the railway from Tampico to San Luis Potosi, and brought in some small wells.

In the winter of 1902-1903 the Furbero group (the Oilfields of Mexico Company) drilled their first well at Cujas (Furbero), which came in a flowing well.

In the same year (1902) the London Oil Trust and Mr. Johnson of New York each drilled a well at Chapopote and Cerro Viejo.

The Mexican Eagle Oil Company has over 200 miles of pipe line (mostly 8-inch capacity), miles of narrow gauge railway, and steel storage tanks aggregating over 2,000,000 barrels in Mexico. The large refinery at Minatitlan is capable of turning 1400 tons of crude petroleum daily into a complete range of high grade products—motor spirit, burning oils, lubricants, fuel oil, paraffin wax and asphalt for roads.

Another refinery of even larger capacity is under construction at Tampico. This refinery, of which the first half should be ready in June this year will have a total throughout capacity of about 4000 tons of petroleum per day.

An interesting equipment is that of the sea loading lines at Tuxpan, where the water inside the bar is too

shallow to allow the big Mexican Eagle steamer to come alongside and load. Accordingly pipe lines have been laid on the bed of the sea reaching out to a loading terminal about a mile and a half from the shore. Here the pipe lines are connected by flexible hose to the steamers laying at ocean moorings, and three or four vessels can be loaded at once from the storage tanks and pumping station on shore.

During 1913 more than 200 tank steamers have been loaded at Tuxpan in this way, and on the average each has been loaded and dispatched within 2½ days.

The pumping and sea line facilities enable a ship to be loaded at the rate of 10,000 tons per 24 hours.

The domestic trade of the Mexican Eagle Oil Company is in a very strong position today, supplying several of the Mexican Railways and other large industries with petroleum product through over 160 depots. The refined oil consumption of Mexico is well over 2,000 barrels per day. Naturally the railways of Mexico use fuel oil, and in one instance—which may be taken as typical—the saving derived from its adoption in the place of coal is no less than 40 per cent.

In 1902, also, the Pearson interests began their first search for oil in southern Vera Cruz on the Isthmus of Tehamtepec, and acquired a large number of leases and blocks of land, after which they began drilling and were successful in five fields, so much so that a large refinery was constructed at Minatitlan capable of dealing with some 15,000 to 25,000 barrels of oil daily. The first unit was operated in April, 1908.

Further extensive leases were secured, and after combining forces with the Pennsylvania Oil Company, active drilling operations were begun in northern Vera Cruz in 1906. The discovery well, San Diego No. 3, was brought in in the spring of 1908, and on July 4 the never-to-be-forgotten well, Dos Bocos, came in.

On December 27, 1910, the great Potrero del Llano No. 4, probably the largest well in the world that has ever been got under control, came in at a depth of 1911 feet, and ran wild for several weeks. The oil spread over some acres and burned in a number of pools, causing much vigilance and trouble in keeping the flames from the well.

Work was at once started on a mammoth earthen ground tank, and two 8-inch lead pipes, connected at the casing head with 6-inch and 8-inch lines, were laid nearly to the reservoir. This immense reservoir covers 45 acres, and is more than 30 feet deep in the middle.

The well was flowing through the two 8-inch lines under 600 pounds pressure, and 300 pounds pressure was held in by the gate valve.

It was estimated that the daily flow was 125,000 barrels, and without question must have been over 100,000 barrels of oil. On March 27 this well had been flowing 90 days, and in that time more than 8,000,000 barrels of clean oil had flowed from it, no water or sand appearing.

It is at present shut down to about 40,000 barrels a day, which is the capacity of the pipe lines which take away the oil.

A company with such an output as the Mexican Eagle must, however, be prepared to meet the demands of the world's markets for oil in addition to developing its domestic trade, and the question of transport immediately arose. Two years ago a company was formed—

the Eagle Oil Transport Company—which placed orders for 20 large transport steamers of which 10 are giant vessels of over 15,500 tons dead-weight capacity. These vessels burn Mexican oil fuel under their boilers, and have cargo pumps capable of handling 1200 tons (9000 barrels) per hour.

Probably nothing in the last year or two has so contributed to make fuel oil a practical proposition for big steamship lines as the accession of this great fleet to the world's oil transport facilities.

The Anglo-Mexican Petroleum Products Company distributes the products of the Mexican Eagle Company in all the markets of the world except Mexico.

Gasoline From Natural Gas.

The Condensation of Gasoline from Natural Gas is the title of Bulletin 88, just issued by the United States Bureau of Mines. It treats of a method of preventing some of the waste of the natural gas incidental to oil mining. This method, the condensation of gasoline from natural gas, offers to the oil operator and others a profitable means of utilizing some of the oil-well gas now being wasted. The most desired constituent of crude oil is obtained, the production of oil is not hindered, and the gas, after the extraction of gasoline, can be returned to the leased area to drive pumps or into pipe lines for uses to which natural gas is ordinarily put, generally with its fuel value lessened only in a slight degree. The author says:

When a well is first drilled the quantity of gas escaping with the oil from the tubing is frequently enormous, being 15,000,000 to 15,000,000 feet or more at times. This gas is wasted; the flow in time diminishes.

When gas comes with the oil in the flow pipe the two are often separated by means of a gas trap. The oil, entering the top of a drum, settles to the bottom and is withdrawn, and the gas flows off at the top. Many of the plants in California utilize gas that flows with the oil for condensing gasoline. One gasoline plant in the Cushing field, Oklahoma, also uses trap gas. A new type of trap for saving gas from gushers and separating the gasoline is described in this report.

Oil wells that have passed the flowing stage and are being pumped may still continue to give off much gas at the casing head. The quantity may vary from little or nothing at some wells to 500,000 cubic feet or more at others. When enough of the gas is available it is used for pumping on the lease, the excess being wasted. A steam pumping engine of 50 horsepower requires about 25,000 cubic feet of gas for 16 hours' operation. From 12 to 15 cubic feet of natural gas is needed per horsepower hour for gas engines that are used on leases for pumping oil wells. If there is not enough of the gas available for working pumps, it is allowed to go to waste, or perhaps some is used for heating and lighting a few scattered houses on the lease.

The efficient utilization of the wasting casing-head gas ordinarily is a difficult problem. The many miles of pipe that would have to be laid to transport it from a field would usually be an unwarranted expense. However, some towns, among which may be mentioned Warren, Pa., and Sistersville, W. Va., are lighted and heated largely with casing-head gas.

In general, however, the oil man considers casing-head gas as waste gas and its escape necessary in oil-well operations to permit the maximum flow of oil into the well from the surrounding strata.

The bulletin also treats of the effect of drilling neighboring wells, the effect of formation of waxy sediment, the history of the making of gasoline from natural gas, the chemistry of natural gas, and many other matters of interest along these lines. Copies of the monograph may be had free, while the supply lasts, from the Bureau of Mines, Washington, D. C. Thereafter it may be purchased at a nominal price from the Superintendent of Documents.

Successful Gasoline Locomotive.

At the Schneider mines in France there are being made trials of a new light locomotive with a 70-horse power internal combustion engine. A novel feature is the use of naphthalene as fuel, employing a special carbureter. It is claimed that the present locomotive is the best solution of the problem of a small locomotive for use with trains on a narrow gauge railroad. The trials made near Havre showed excellent results as to

general working as well as fuel consumption. Advantages over steam locomotives are: rapid starting, no boiler upkeep, suppression of water supply along the road, ease of driving and absence of danger, reduction of dead weight to the least amount, small bulk of fuel on board and absence of smoke and cinders.

March Oil Production.

From the Standard Oil Bulletin is taken the following oil field news and figures:

March figures of production record a decline of 2730 barrels daily in comparison with the February statement. Shipments at 236,074 barrels daily represent a healthy increase over February and mark a close approach to production.

Shut-in production shows no change and stands at 23,000 barrels daily. The well development during the month provided nothing out of the ordinary. There were 23 well completions with an initial output daily of 5700 barrels.

Early in April the Belridge Oil Company made what appears to be an important strike in its No. 4 well in the northeast quarter of section 35, 27-20, six miles northwest of Belridge. Present reports indicate the well good for 500 barrels, gravity 35.4, depth 4,015 feet.

Summary of developments and production for all California fields for March follows:

FIELD	New Rigs	Drilling Completed During Month	Abandoned	Wells Producing	Production Per Day
Kern River	5	1	5	1,397	17,655
McKittrick	..	2	..	252	9,999
Midway - Sunset	9	43	9	1,316	107,630
Lost Hills - Belridge	2	4	2	238	11,623
Coalinga	1	10	2	817	39,704
Lompoc and Santa Maria	1	8	1	243	11,760
Ventura County and Newhall	..	13	..	430	2,525
Los Angeles and Sal Lake	..	..	..	687	5,957
Whittier - Fullerton	5	65	6	581	37,063
Summerland	..	..	..	102	148
Watsonville	..	..	..	5	75
Totals	23	146	23	4,608	244,139
Total crude oil stocks, March 31, 1915, 60,777,316 barrels.					
Total shipments from fields, March, 1915 7,318,309 barrels.					

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Edinburgh Adopts Self-Driven Street Cars.

After careful study of the motor buses and cars of Paris and London, the Edinburgh City Council has been advised by its own commission to adopt self-propelled street cars in preference to a system either of overhead or of conduit street car service. The commission reports in favor of gasoline-electric cars, on the ground that the first high cost of these is more than counterbalanced by the great cost of installing an overhead or underground trolley system.

Government Investigates Oil Reductions.

A report from Washington, D. C., says that in response to a senate resolution directing an investigation into the causes of a reduction of prices of crude oil in 1914, in the Healdton, Oklahoma, oil field, sometimes called the Ardmore field, a report by the old bureau of corporations was laid before President Wilson. The report was completed before the bureau was merged with the new Federal Trade Commission. The investigation revolved around the charge that the Magnolia Pipe Line Company, having a monopoly in the Ardmore field, had arbitrarily reduced the price of crude oil and had practiced discrimination. The report says:

In brief, the conclusion of the bureau is that reductions in the price of Healdton crude oil were made because of the discovery by the Magnolia Pipe Line Co. of its small gasoline and kerosene plant and because the lubricating values of this oil were not enough to warrant, under existing circumstances, its use for the manufacture of lubricants.

The pipe line company, however, does not appear to be without blame for its failure to determine the true character of the oil at an early date. This would have saved much disappointment to producers.

The bureau found no evidence of any intent on the part of the pipe line company to discriminate between the different producers or against the oil produced on Indian allotments. The bureau did find, however, that at various periods some producers may have been favored at the expense of others. Under the law the pipe line company should either have taken the total production or should have pro-rated its purchases and equalized them within 30 days. In the case of most of the producers temporary inequalities were apparently corrected within the legal period. The unreliability of existing records relating to production and the unsettled question as to what legally constitutes discrimination, precludes a positive statement in regard to the subject.

Government Coal Specialist Resigns.

Secretary Lane has accepted the resignation of Edward W. Parker, of the United States Geological Survey, for many years the government coal statistician of the Division of Mineral Resources. Mr. Parker leaves the government service to accept a responsible position with the anthracite mining companies. In transmitting his resignation Director George Otis Smith goes on record as expressing his regret both personally and as a public official at "this termination of Mr. Parker's long and efficient service. As coal statistician of the government since 1890 and as chief of the Division of Mineral Resources of the Geological Survey since 1908, Mr. Parker's contribution to the present standard or the annual report Mineral Resources has been large and important. In the nature of the public service should also be mentioned important work by Mr. Par-

ker in studies of coal testing and conservation and the publication by him in the engineering press of many papers on coal mining and production. From his own standpoint, however, Mr. Parker is to be congratulated in his new connection with the anthracite coal interests, where he will continue his activities along lines on which he has long been regarded as authority."

With Secretary Lane's approval, Director Smith has designated H. D. McCaskey as chief of the Division of Mineral Resources of the Survey to succeed Mr. Parker. Mr. McCaskey brings to his new position experience, not only as a geologist of the Geological Survey since 1907 and section chief since 1912, but also as a mining engineer in the Philippine Mining Bureau from 1900 to 1903, and as chief of the bureau from 1903 to 1906.

Will Lecture on Highway Engineering.

Columbia University has appointed the following non-resident lecturers for the 1915-1916 session of the graduate course in highway engineering: Charles J. Bennett, state highway commissioner of Connecticut; John A. Bense, consulting engineer; Will P. Blair, secretary National Paving Brick Manufacturers Association; Sumner R. Church, manager research department Barrett Manufacturing Company; Frederick A. Cleveland, director bureau of municipal research, New York; William H. Connell, chief of bureau of highways and street cleaning, Philadelphia; Morris Llewellyn Cooke, director department of public works Philadelphia; W. W. Crosby, chief engineer Maryland Geological and Economic Survey and Consulting Engineer; Charles Henry Davis, President, National Highways Association; A. W. Dow, chemical and consulting paving engineer; Edwin Duffey, commissioner of highways of New York State; Lewis R. Ferguson, assistant secretary, Association of American Portland Cement Manufacturers; C. N. Forrest, chief chemist, The Barber Asphalt Paving Company; Wilson P. Foss, Sr., president The New York Trap Rock Company; Walter H. Fulweiler, chief chemist of The United Gas Improvement Company; E. P. Goodrich, consulting engineer; D. L. Hough, president of The Cuban Engineering and Contracting Company; William A. Howell, engineer of streets and highways, Newark; Nelson P. Lewis, chief engineer board of estimate and apportionment, New York; Walter R. Marden, vice-president and chief engineer of The United Construction Company; H. B. Pullar, general manager The Pioneer Asphalt Company; Philip P. Sharples, manager General Tarvia Department, Barrett Manufacturing Company; Francis P. Smith, chemical and consulting paving engineer; Albert Sommer, consulting engineer to the president of the Borough of Brooklyn, New York; John Cassan Wait, attorney-at-law; George C. Warren, president Warren Brothers Company.

Coal Mine Accidents

The lack of comparable and accurate statistics of coal-mine accidents in the United States has led the Bureau of Mines to collect such data, and the results of these investigations have been compiled by F. W. Horton, in Bulletin No. 69, entitled "Coal Mine Accidents in the United States and Foreign Countries," which has just been issued. This report shows that during 1912, 2360 men were killed in the coal mines of the United States as compared with 2719 for 1911, and that the fatality rate was lowered from 3.73 in 1911, to 3.15 per 1000 men employed in 1912. The report contains statistical information concerning the production, the number of men employed and the number of men killed in each state since 1896. From 1896 to 1907 the number of men killed per 1000 employed gradually increased with only slight fluctuation; the number killed per 1,000,000 short tons also increased, but the rate fluctuated over a wider range.

During this twelve-year period through 1907, the increase in the death rate was accompanied by an enormous increase in the production of coal. In 1896 the output was 191,986,000 tons, and in 1907 it was 489,363,000 tons, an increase of over 150 per cent. In 1896 each man employed produced 2.64 tons coal per day, whereas in 1907, the daily production of each man was 3.06 tons, an increase of 16 per cent. Since 1907 there has been a marked decrease in the number of fatalities at the coal mines.

This general improvement has been brought about by a combination of causes, the principal one of which has been more efficient and effective mine inspection on the part of the State Mining Departments and the State Mine Inspectors throughout the country, supplemented by greater care on the part of both operators and miners. The investigative and educational work of the Bureau of Mines has kept both the operator and the miner alive to the various dangers connected with coal mining, and has shown what precautions should be taken to avoid these dangers. As a result of these educational features, mining companies are organizing safety committees; providing emergency hospitals, training men in first aid and rescue work, so that in case of a disaster they are equipped to cope with any ordinary accident.

The fatality rates in a number of foreign countries covering a period of ten years, 1901 to 1910 inclusive, are as follows: Great Britain, 1.36 per 1000 men employed; Germany, 2.11; France, 1.69; Belgium, 1.02; Japan, 2.92; Austria, 1.04; India, 0.96; New South Wales, 1.74; Nova Scotia, 2.65, while the rate for the United States was 3.74. The low fatality rates in the foreign countries may be accounted for largely by reason of the fact that coal-mine inspection has been in operation much longer than in the United States. In Great Britain the coal mine accident statistics have been collected, published and studied since 1851. France, 1853; Austria, 1875; Germany, 1852; and Belgium, 1831.

A chronological list of the more disastrous coal mine accidents in the United States shows that 275 accidents have occurred since 1839, in which five or more men were killed at one time, representing a total of 6777 fatalities. Of these accidents there were 135 that killed from five to nine men each, a total of 859; eighty-two that killed from ten to twenty-four men each; a total of 1237; twenty-five that killed from twenty-

five to forty-nine men each, a total of 870; eighteen that killed from fifty to ninety-nine men each, a total of 1221; eleven that killed from 100 to 199 men each, a total of 1,534; three that killed from 200 to 299 men each a total of 695, and one that killed 361 men.

Of those larger disasters gas and coal-dust explosions caused 183 accidents and 5111 deaths, or over three-fourths of the total number of men killed. The next greatest number of deaths were from mine fires, which caused the loss of 1,082 lives, or over fifteen per cent of the total number killed, by thirty-three separate accidents. It may thus be seen that accidents from gas and coal-dust explosions and mine fires account for more than ninety per cent of the total number of men killed in these large accidents, although falls of roof pillars and wall claim nearly fifty per cent of the total fatalities.

Copies of this bulletin may be obtained by addressing the Director, Bureau of Mines, Washington, D. C.

Government Will Produce Its Own Oil

Reports from Washington, meager so far as details are concerned, indicate that the Government is going into the oil business on a large scale and intends utilizing government oil lands for the purpose of obtaining a perpetual supply of oil for naval fuel use.

Under instructions from the last Congress both the Navy and Interior departments have been investigating the question of government construction and operation of a pipe line from the midcontinent fields to the Gulf of Mexico, and the Government purchase of oil lands sufficient to supply perpetually all the fuel required by the navy.

This report has been prepared and given to the interested departments but has not been made public, and notwithstanding the secrecy maintained it is understood that the report was favorable and that steps have already been taken to carry the plan to completion.

It is understood, so rumor goes, that similar investigations have been carried on in California, but it is impossible to verify this report. If it be true there is no question that much of the oil land reverting to the government in its contention with the Southern Pacific Railroad will be a basis for exploitation for this purpose.

Mare Island to Build Fuel Ship.

Secretary Daniels has signed the contract plans for the construction at the Mare Island Navy Yard of the naval fuel ship Cuyama, at an estimated cost of \$999,723, which is under the limit fixed by Congress, that body allowing \$1,140,000. The Cuyama will be a duplicate of the Kenawha, now in service, and the Maumee, now under construction at Mare Island Navy yard. Her total displacement is to be 14,400 tons and she will be fitted as a tanker.

Parkfield Property.

A 165-acre tract of prospective oil land in the Parkfield District, Monterey County, is offered for sale by Frank La Vine, 131½ N. Broadway, Los Angeles, Cal. The property is close to drilling operations and is a first class prospect. The big money comes in the discovery. Particulars furnished on request.

Oil Fields in Chili.

Commercial Attache L. Havens, at Santiago, Chili, writes to the department at Washington as follows:

It is reported that the country surrounding Punta Arenas in Chile contains petroleum and asphalt, and that the deposits lie in a belt which, if extended across the undeveloped territory, would intersect the Comodoro Rivadavia oil fields in Argentina. The asphalt has been found in small quantities all through this territory for many years and even in the crude state burns with a continuous yellow flame. Practically all the ground has been renounced, but the holding company will dispose of 50 to 80 p. c. of their interests to an exploration company who will guarantee to exploit if oil is found, or they will give an option for complete sale for cash at the end of six months' exploration, or for an additional amount will extend the option to 13 months. If no oil is found the explorer loses only the cost of his explorations.

It is also reported that there are important oil shales available for development in Chile about 260 miles south of Santiago, with a railway nearby; that analyses indicate that the shales contain from 25 to 62 gallons of crude oil per ton; and that 31,100 acres have been renounced as oil claims by persons who are unable to develop, but who will transfer their rights to a developing company for 10 p. c. stock interest or will give an option for a cash sale.

New Discovery of Great Value

The consequences of the strike of 35 degree gravity petroleum in the Vaqueros formation in the new field north of McKittrick means much to the future development work of California and many oil operators are discussing the possibilities that are opened by the discovery. But once before in the history of California oil development has oil been found in this Vaqueros formation, this being on the west side of Coalinga. Wherever it has been found elsewhere it has been in the the Monterey formation, and in this new well of the Belridge the Monterey sands were drilled through and the well continued to the Vaqueros formation where the light oil was found.

In addition to opening up a new territory in its immediate vicinity the new discovery gives an immense speculative value to much of the land extending all the way along from McKittrick and the original Belridge field up to Lost Hills. There is no question that as soon as conditions in the oil market justify activity this discovery will lead to extensive prospecting.

New Coalinga Company.

The properties of the De Luxe, Empire and Republic Oil Companies have been taken over by the Coalinga-Empire Company, formed for the purpose of effecting the merger. These three companies were formerly operated under the supervision of the Coalinga Oilfields Company, which was organized by the Hammond interests. An agreement by which the Coalinga Oilfields concern operated was forfeited and the properties reverted to the original owners, thus paving the way for the consolidation.

The Coalinga-Empire is capitalized at 1,000,000 shares with a par value of \$1 each. H. A. Whitney is president. In the distribution of the capital stock the De Luxe Company receives 90,000 shares for the \$90,000 par value of its bonds; the Empire and Republic which have bonds of \$240,500 and \$180,000 par value respectively, also receive stock on a dollar for dollar basis.

The Empire and Republic companies each own eighty acres on section 32, 19-15. The De Luxe has two completed wells. Until conditions in the industry improve there will be no development work attempted by the new company.

Old Gusher Still a Good Producer.

The Obispo gusher in section 22, 12-23, in the Maricopa district, after flowing for a year, is still giving about 1000 barrels a day. This well has been one of

the best paying holes on the west side of Kern county, and has been a steady producer every since it was brought in, with the exception of about three weeks during repairs on the casings and gates. About two months ago its flow decreased to such an extent that it was thought the well's finish was in sight but it was put on the beam and pumped and after a few days of this treatment the flow started again and gradually increased from 200 barrels a day to more than a thousand.

Recent Patents.

The following recently granted patents of interest to the oil trade are reported expressly for The California Derrick by Joseph M. Nesbit, patent attorney, Park Building, Pittsburgh, Pa., from whom printed copies may be procured for 15 cents each:

Deep well pump, J. E. Mills, Chicago, Ill., 1,134,473.
Method of making well drill jars, W. A. Sparks, Charleston, W. Va., assignor to Sparks Drilling Jar Co., same price, 1,134,926.
Well drilling tool, J. C. Theriot, Taft, Cal., 1,134,930.
Pump transmission mechanism, J. O. Shafer, Bluffton, Ind., assignor to The Geo. W. Grimes Co., Bluffton, Ind., 1,136,060.
Discharge appliance for railway tank cars, C. M. Bloxham, Verona, N. J., assignor to Union Tank Line Co., Bayonne, N. J., 1,135,254.
Pumping jack, A. T. Wolfe, Coffeyville, Kans., 1,135,519.
Treatment of petroleum, L. A. Dubbs, Santa Monica, Cal., assignor to National Hydrocarbon Co., Chicago, Ill., 1,135,506.
Fish-tail bit, H. A. Mardeen, Los Angeles, Cal., 1,136,203.
Gas exhauster for oil tanks, C. J. Holmes, St. Louis, Mo., 1,136,230.
Underreamer, Joseph, Lorenz, Robinson, Jr., 1,136,542.
Well packing, L. F. Hunt, Easton, Pa., 1,136,879.
Deep well packer, A. C. Stinson, Bradford, Pa., 1,136,904.

Union Oil Curtailing its Output

Latest developments in the Midway field indicate that the Union Oil Company is carrying forward its avowed policy of conserving the oil deposits on its lands, and also on such other land as it may control. Following this policy Union Oil has reduced the acreage of its producing properties materially by permitting the lapse of several valuable leases held on properties in the Sunset field. These were five-year leases and much development work had been done on the properties but no effort was made to continue the leases on their expiration. The land reverted to the original owners regardless of the large sums that have been expended upon them by the Union.

The lands under lease were in sections 35, 34 and 33, 12-24, on which the Sage and Webster properties are located, also fractional sections 26, 27, 28 and 29, 12-24. On these sections are located the Boston, Pacific, Tannehill, Cactus and Ruby. All the property affected belongs to the Midway Oil Company and it is understood that the Midway Company will do no work on the ground beyond maintaining the production of pumping wells now producing.

A number of operators have had their eyes on a possible chance to get these properties on lease and it is believed new leases will soon be made.

The action of the Union Oil Company causes no surprise for it has announced an established policy of building up its refining and marketing business with purchased oil while conserving its own properties.

Leases Cause Development

Much new development is reported in the West Side San Joaquin fields, made necessary by lease stipulations. So vigorous has the work been that it has attracted new attention to this field. The daily production of the Midway-Sunset field for March was 4,000 barrels below that of January of this year. The latest number of the Standard Oil Bulletin gives the number of producing wells in this field as 1,316, or 70 less than were producing during the first month of the year.

California Derrick

The Oil Authority of the Pacific Coast

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

Announcement.

The undersigned have purchased the California Derrick with the idea of maintaining the high standard set by its former owner, and making it continue the Oil Authority of the Pacific Coast.

We accept the "creed" printed at the head of the editorial columns, and shall endeavor to prove our faithfulness to the oil industry as an industry for the benefit of mankind rather than of the individual.

We shall welcome at all times honest and kindly criticism and advice, and will be pleased to print communications bearing on the industry, barring, of course, those of a personal nature or showing animus against individuals or companies.

Our columns are open to full and free discussion of all subjects pertaining to the industry, and to all legitimate advertisements pertaining thereto, but we reserve the right to investigate any company desiring advertising space.

CLARENCE E. EDWARDS
E. L. MACKEY.

Retirement of Mr. Wright

Those who have followed the fortunes of the California Derrick for the past five years, and whose loyalty and support has meant so much to the success of the paper, will learn with regret the fact that Mr. C. C. Wright has retired from its management and, indeed, it may be said that the oil industry of California has suffered a distinct loss in Mr. Wright's retirement from the paper, for his clean methods and his clear insight

into conditions have combined to make California Derrick a paper beyond peer in its field.

The new owners of the California Derrick join in these regrets and wish Mr. Wright the greatest success in his new field of endeavor, and when we say that our ambition is to keep the California Derrick up to its past high standard of excellence as an industrial paper, we indicate our appreciation of the ability of the retiring editor.

Outlook for Oil Industry is Brighter.

Beset with difficulties on all sides, harassed by overproduction and by lack of transportation, oil troubles culminated in the European war which seemed to put the finishing touch to the situation. Depression has marked the industry for several months and he was a brave man, indeed, who showed any optimism in face of so many adverse conditions.

Fortunately, however, the oil man is by nature an optimist. Notwithstanding his troubles he never entirely gives himself over to pessimism, and in this the industry has a sterling quality lacking in so many others. That this optimistic feeling is based on a sound foundation has always been evidenced in the past, and even now, when everything seems at its lowest ebb in the oil business, the rift is seen in the clouds and better times are presaged.

All indications are that general conditions governing the oil industry are working toward a betterment. Reports from the oil fields of the state show that conditions are changing for the better. Already owners of many idle properties are getting them into shape so as to be able to resume production when the market conditions warrant. It is true that these operations are not being carried forward with undue haste, indicating that the owners are not permitting their optimism to overcome their judgment, and indicating that they have not set the time of renewal of business in the immediate future.

Reports based on investigation show that new oil fields are ripe for exploitation in several untried parts of California. Mention is made in another column of the underlying oil in Imperial Valley, and from equally reliable sources comes the information that experts have discovered oil of high grade and evidently great quantity in the hills in the northern part of the Sonoma Valley, extending up into the hill land of Mendocino county, and along the head waters of Eel River and its tributaries.

It is reported on what seems to be good authority that the Associated Oil Company will soon restore to producing a number of wells in the Kern river field that have been idle for a long time. Many of these wells, of which there are several hundred, have already been put on the pump. Instead of being pumped regularly the production will be regulated so the wells will be kept in prime condition for full output when required.

Several Coalinga companies are also getting their properties into shape for active work and are going over their wells and equipment. The Empire and Republic companies, in section 32, 19-15, recently started pumping on old wells. The Camwell Company, in section 1, 20-14, has started four of its nine wells to producing again and others will follow. Other companies that have started producing again in this district are the Amity, the Merced and the Commercial.

Inquiry among operators as to the reason for this

activity and increase of production at a time when the oil above ground far exceeds market requirements, brings no tangible solution, but there is a general impression that "something is going to happen," in the European situation which is going to bring about an immediate and prolonged demand for oil of all grades. There is no question that the cessation of hostilities in Europe will bring an immediate heavy demand for oil, and if the recent reports from Paris that the end is in sight has other foundation than desire, it may be possible that we shall have better times within the next sixty days. Already inquiries are being made for gasoline in tank ship quantities and it is hinted that several mild inquiries have been made regarding possibilities of heavy oil shipments on quick notice. This points to a knowledge possessed by London dealers or speculators through which they hope to get heavy options and get the oil to market at a time when it will call for the top prices.

This Case Should Be Watched.

The question involved in the litigation before the Federal Courts as to the right of patent to the McCutchen brothers claims, section 32, 12-23, Maricopa, now occupied by the Pacific Midway Oil Company and others, is one as to whether the temporary suspension of work on this land at the time of the withdrawal in September, 1909, works a forfeiture, notwithstanding the expensive efforts which had already been put forth prior to that time.

If this rule is to be applied strictly and literally to all pending claims the effect will be very serious.

This rule was applied strictly and literally by Secretary Lane in his recent decision refusing a patent to the Pacific Midway. So far as the Department of Interior, the administrative branch of the government, is concerned this is final, but it remains for the judiciary to pass upon the question. The decision of Secretary Lane was given simply to hold the matter in obedience for judicial determination, nothing more. The issuance of a patent while the litigation was before the United States courts involving the right to such patents would have been extremely embarrassing to those tribunals and to the Department of Justice as well.

If the courts apply an interpretation of the law as strict as above it will mean probably much litigation in many cases and with heavy loss to some who had hitherto expected to get their patents without difficulty because of the earlier work done.

The old policy of rough and ready justice, based upon a showing of good faith, will be superseded by decisions based upon hair-splitting technicalities.

American Petroleum Society Convention.

The annual convention of the American Petroleum Society will be held in San Francisco from October 25 to 30, next. Many leading oil operators, refiners, geologists, chemists and consumers from all parts of the United States will be present, and several foreign countries will have representatives.

The society has two objects in view in coming to San Francisco this year—to allow its members to see

the Exposition and to increase interest of Californians in the organization. Hitherto there has been very little attention paid to the society here, the membership being practically limited to the East and Middle West. There are, however, three Californians on the executive committee, namely, Ralph Arnold, geologist, Los Angeles; G. W. Swindell, secretary of the Chamber of Mines, of Los Angeles; Edmond O'Neill, of the American Chemical Society, University of California, Berkeley.

The work of the society is to promote the science of petroleum technology. It will readily be seen from this, and from the lines of work in which the members of the executive committee and officers are engaged, that the work of the society concerns refining, chemistry, automobiling and other kinds of engineering and other special branches, rather than producing and elementary work.

Dr. Irving C. Allen, petroleum chemist of the United States Bureau of Mines, is secretary of the society. Dr. Allen has been in San Francisco for the past year, and it is due to his hard work that California oil is represented at the Exposition by anything except the exhibits of the Standard and Union Oil Companies. His office is in the Custom House building, and he has just sent out circulars to all interested in oil, asking them for co-operation and inviting them to prepare papers on any subject connected with oil to be read at the meeting of the society.

Trying to Merge The Producers

When the Independent Oil Producers Agency met at Bakersfield on the 12th inst., L. P. St Clair was re-elected president and W. P. Robb secretary. The entire board of seventy five members and the executive committee were also given endorsement by re-election.

The most interesting feature of the session was the reading of Mark L. Requa's tentative plan for the consolidation of all the independent producers into one big combine rivaling the Standard. Mr. Requa stated that after the appraisement is concluded, in about a month, the agency would be in position to make important plans. He suggested that a corporation composed of the consolidated independent producers could be formed, and he elicited much enthusiasm when he said he had virtually been promised plenty of financial backing from Eastern sources.

After an hour's debate the resolution as formulated by the Executive Committee and adopted by that body was adopted to the effect that the president of the agency be authorized to refuse to accept any more oil produced on land in litigation with the government unless the producer of such oil gives the agency some guarantee of protection in case of a decision in favor of the government.

During 1914 the agency handled a total of 27,000,000 barrels of oil and the sales netted 38.4 cents a barrel.

To carry forward the appraisement of all the companies which will come into the proposed merger the sum of \$70,000 was appropriated.

It was decided to adjourn to the call of the president with the idea that the agency would come together in San Francisco sometime in July and spend a week in its deliberations of the important subjects that are now under consideration.

Increased Gasoline Demand.

According to advices from Chicago the demand for gasoline in the Middle West has shown a great increase in the past few weeks. A number of refining plants that were running considerably below capacity have recently put their plants in full operation.

Standard Wants Outlet at San Pedro.

The Standard Oil Company has applied to the Los Angeles Harbor Commissioners for permission to erect a station on the San Pedro waterfront, where it has seven acres under option, with tidewater frontage of 200 feet. The San Pedro Chamber of Commerce has heartily endorsed the request and has asked the Harbor Commissioners to grant it. The station is to be a fuel depot for oil burning craft, and will also be equipped for forwarding foreign shipments of case oil.

Senator Campbell to Prosecute Oil Cases.

State Senator Archie B. Campbell, of San Luis Obispo has been appointed special assistant to United States Attorney-General E. W. Gregory, for the purpose of prosecuting the Federal Government suits in California to set aside the patents on oil lands held by the Southern Pacific, and also to handle the cases of oil properties involved in litigation resulting from former President Taft's withdrawal order. To accept this position Senator Campbell has resigned from the receivership of several oil lands on which suits are pending.

Oil Conservation Measure Fails

Senator Carr's pet bill by which he hoped to have petroleum declared a public utility, and through which he expected to strike a blow at development work in all of the oil fields of California, was defeated by a most decisive vote in the senate when the measure came before that body for consideration.

Under the thin guise of "conservation" this bill really was an effort to raise the price of petroleum while it was driving capital away from the state. Its effect would have been the curtailment of product and the extermination of jobbing in oil.

The vote was 21 against the bill and 12 for it.

New Pipe Line May Help

When the new pipe line now under construction by the Valley Pipe Line Company, a subsidiary of the Dutch-Shell combine is completed, it is expected that much benefit will accrue to the small producers. The completion of this new line is set for some time late in June, and it will be ready for the transportation of oil inside of three months. In connection with this line, and coincident with its completion and operation will be the establishment of the new refinery of the Shell Company. The two new means of operation are looked forward to with much interest, as it is believed that there will be an increase of export trade about that time.

While production of petroleum is still far in excess of average requirements oil men see a brighter sky and look for early disappearance of the depression that has come because of the European war. The Shell Company has already forwarded several cargoes of oil to the Orient, most of which has been purchased from the Union Oil Company of California.

Wants More Storage Room.

The Traders Oil Company, operating on Twenty Five hill, in the Midway field, has found it necessary to add to its storage facilities. Arrangements are being made for the erection of a steel tank with a capacity of 35,000 barrels on the company's property on section 23, 32-23, to care for the surplus production of the eleven wells now on the producing list. The improved outlook in the oil business is responsible for the action of the company.

Santa Maria Forms New Company.

The Santa Maria Oilfields, Ltd., which specializes in road oil, has decided to make separate companies for its producing and its marketing business. This is the reason the National Roadmite Paving Company has been incorporated under the laws of Delaware to take over the paving company controlled by the stockholders of the Santa Maria Oilfields, Ltd. Operations of the new company will be restricted to marketing road oil produced by the Santa Maria Ltd., which will sell its product to the Roadmite Company only.

New Refinery For Ventura

The Montebello Oil Company has begun construction on a new refinery at Fillmore, Ventura county, Cal., and expects to spend \$1,000,000 on it. This will make the third refinery in the county, the two others now in operation being owned by the Capital Crude and the Union, both being situated at Santa Paula. The product of the Montebello Company, the largest concern operating in Ventura county, is all above 30 degrees gravity. The entire output formerly went to the Standard, but now the company thinks there is more money in doing its own refining.

Rich Kern Oil Land Withdrawn

Reversing the decision of the local land offices, rendered a year ago, Secretary of the Interior Franklin K. Lane has affirmed the decision of the General Land Office Commissioner Clay Tallman, withdrawing from entry the quarter section of land of the famous The Hawk oil claims of Kern county, California, from which millions of dollars worth of oil has been taken. The land now reverts to the government and there is no appeal from the decision. It is held by the Pacific Midway Oil Company and a number of other corporations and individuals who sought a patent but who did not prosecute the work of exploration for six months.

Honolulu Consolidated's Year

According to the financial report rendered to the stockholders of the Honolulu Consolidated Oil Company, 2,187,638 barrels of oil were sold during the fiscal year ending March 31, 1915, bringing in a total of \$1,258,196.18. The peak of the year was reached in August 1914 when there was an output of 211,605 barrels. The average price received per barrel was 57.51 cents. At the meeting directors were elected as follows: Captain William Matson, R. P. Rither, J. A. Buck, A. F. Morrison, Charles E. Green, W. M. Alexander and N. Ohlander. The directors elected the following officers: Captain William Matson, president; R. P. Rither, first vice-president; J. A. Buck, second vice-president; W. P. Roth, secretary and treasurer; R. H. Wright, assistant secretary and treasurer.

California Concentrates

The Potter Oil Company, at Taft, is arranging to begin work at once looking to the increase of production of its lease by drilling six new wells.

W. E. Bemis, vice president and director of the Standard Oil Company, of New York, visited San Francisco, taking in the Exposition, with Mrs. Bemis, early in May.

Since commencing operations in California the American Gasoline Company, the California subsidiary of the Royal Dutch Shell, has increased its capital stock from \$750,000 to \$4,000,000.

The total issue of the Houston Oil Company's timber certificates amounting to \$5,835,000, has been disposed of, the last \$1,700,000 having been taken by Baltimore, New York and St. Louis bankers.

The San Diego Consolidated Oil Company has been incorporated with a capital stock of \$500,000. The directors are P. M. Johnson, A. J. Bradley, W. W. Perkins, C. B. Stevens and H. E. Schonfelberger.

A string of 1200 feet of 8 1-4 inch casing and 1000 feet of 12 1-2 inch casing is being hauled out from the Midway Supply Company to the Soudan lease, owned by Daney, Miley and Buley on section 26, 21-22.

The Associated Oil Company has purchased 100,000 barrels of oil at 30 cents a barrel from the Alma Oil Company, which is operating 120 acres of land in the Kern field. The oil is heavy, being about 14 degrees.

John Garignes, treasurer of the Union Oil Company, together with Mrs. Garignes, Westcott Clough and Mrs. Clough, and Robert Crosbie visited San Francisco from Pasadena on a pleasure trip during the fore part of May.

According to reports of the Midway Premier its wildcat well on the McKittrick front, eight miles northwest of the town of McKittrick, is pumping from 70 to 100 barrels. The oil is to be used for fuel for drilling a second well.

The Queen-Raddon Oil Mining and Development Company has been incorporated at Phoenix, Arizona, with a capital stock of \$3,600,000. The directors are Henry C. Cleveland, Benjamin B. Savage and J. R. Vanderbrook.

At the annual meeting of the Pacific Crude Oil Company the following directors were elected: G. N. Easton, R. H. Gay, J. H. Hunt, John Lee, Jr., and J. W. Phillips. These later elected the following officers: G. N. Easton, president; J. H. Hunt, vice-president; John Lee, Jr., secretary, treasurer and general manager. A dividend of half a cent was declared.

According to the annual report of the General Petroleum Company the proposed plan of reorganization is not progressing favorably and will remain in statu quo for a while. The results secured by the company from its operations during the past year have been satisfactory when the unsettled condition of the industry is taken into consideration.

The Denver-New Mexico Oil Company, Dayton, N. M., has incorporated; \$50,000; Henry L. Oliver, Denver, Col.; Geo. A. Proctor, Lincoln Wilson and Jos. A. Simpson, of Denver, Col., and M. B. Cnepper, Dayton, N. M.

The Producers Guaranteed Oil Company which owns and leases to operating companies, a large tract in the heart of the Midway district, paid a 7 1-2 per cent dividend for May. The company has never developed any wells but gets all its income from royalties.

Taft, Cal.—The No. 40 well of the Kern Trading and Oil Company, section 1, 32-23, is in what is believed to be a new oil sand at a depth of about 3,100 feet. As yet no effort is being made to bring it in, the drillers testing out to determine whether or not the well will flow.

The new well put down by the Standard on section 27, 28-27, in the Kern River field, continues to yield 400 barrels a day, the production being maintained by pumps. This is one of the most important developments ever made in the Kern fields, for it confirms the opinions of operators who claimed that oil could be found at depth in this district.

A New Petroleum Company

Los Angeles capital to the extent of \$25,000 is back of a new oil company, called the Royal Petroleum Company, which has taken over the August property, section 6, 12-23, Maricopa, with two completed wells, neither of which has been producing for some time. It is the announced intention of the company to put these wells on the beam as soon as they can be cleaned. The directors of the new company are L. Ashmun, A. N. Wheelock, D. G. McDonald, A. R. Allen and M. B. Houston, all of Los Angeles.

News from McKittrick District.

McKittrick, May 11.—The Petroleum Midway, Ltd., whose property is located in section 16, 30-24, near the leases of the St. Helens and Northern Exploration companies, brought in a good well last week at a depth of 2,270 feet. The production is about 1,000 barrels a day and the gravity is said to be about 27. The company is having laid a six-inch pipe from Maricopa to Fellows to handle the output.

The St. Helens Oil Company, also on section 16, 32-24, is preparing to drill well No. 7.

The Mascot Oil Company is drilling well No. 41, on Twenty-five hill, where a depth of 600 feet has been reached in 12 1-2 inch casing. Rigs for wells 42 and 43 are being prepared by the Mascot.

The Federal Rotary Drilling Contract Company is rigging up preparatory to drilling a new well on section 33 for the Kern Trading & Oil Co.

The Potter Oil Co., is preparing to drill the first of six wells in the vicinity of the Hondo Oil Co.'s lease.

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Navy Oil Reserve in Wyoming

President Wilson has ordered the creation of Naval Petroleum Reserve No. 3, comprising 9,481 acres of land in Natrona County, Wyo. No wells have yet been drilled in this area but experts believe the reserve will prove a productive source of fuel oil for the navy.

Union Oil Shows Prosperity.

It is announced by the Union Oil Company of California that it has on hand a surplus of \$1,100,000, for the purpose of retiring \$450,000 of notes due May 1, 1915 and \$650,000 due to the sinking fund for the retirement of bonds, which is due on the same date.

Los Banos Well Encounters Gas.

C. C. Haddea, engineer for the Paraffin Oil Co., states that drillers have encountered a heavy gas pressure and the operators have decided to pull the 5 5/8-inch casing and land a string of heavy 7 1/2-inch casing. The company expects soon to bring in a well.

Belridge Well Stops Flow

The light gravity well brought in by the Belridge Oil Company on section 35, 27-20, in the Lost Hills region, last month, has stopped flowing, but whether it is from being sanded up or on account of casing collapsing, has not yet been determined. The well was flowing 500 barrels a day when it suddenly went on strike and stopped.

Bankline Wants to Sell Stock

Application has been made to the Commissioner of Corporations by the Bankline Company, of San Francisco, for permission to sell 40,000 shares of its capital stock at a par value of \$1 a share. The company is capitalized at \$200,000 and it is proposed to discharge \$40,000 of the company's indebtedness by this sale. The company operates two properties in Kern county, one owned and one on lease, and by selling the stock it can clear its debt without an assessment.

Dividends Declared

The Standard Oil Company of California announces its regular quarterly dividend of \$2.50 a share, payable June 15 to stockholders of record May 20, 1915. This is the twenty-sixth quarterly dividend of the company.

Announcement has been made of a dividend of 7 1/2 cents a share by the Producers Oil Company. This is the first dividend since April, 1914, at which time the rate was 5 cents a share. The total payments up to that time amounted to \$324,000. The company has 80,000 shares, with a par value of \$5 outstanding.

Associated Oil Wins Appeal.

J. Knobloch will not come into possession of eighty acres of land held by the Associated Oil Company, soon, if at all, for the Supreme Court of the State has reversed the decision of the Superior Court of Kings County which decided that the Associated Oil's title was not valid owing to a clerical error on the assessor's books for 1902. Suit for possession of the land was

begun by Knobloch on this technicality and the lower court sustained his contention. The Supreme Court holds that a clerical error does not affect the validity of the assessment, and hence of the title.

Belridge Takes Over Mannell-Minor

The property of the bankrupt Mannell-Minor Company, consisting of three producing wells on section 35, 27-20, has been taken over by the Belridge Oil Company, which recently brought in a new gravity producer in the Lost Hills-Belridge field. The purchase of this property makes the Belridge Company the owner of this entire section. The Mannell-Minor wells are comparatively shallow, their depth being less than 2,000 feet.

Will Drill for Big Sand

Drilling will be resumed by General Petroleum No. 3, H. & H. lease, section 22, 32-24, Midway in the belief that by going a little deeper big sand will be found which will make a flowing well. This well proved a large territory in Buena Vista hills, and drilling was suspended about the middle of April at a depth of 3,380 feet where good pumping sand was encountered. It was planned to complete the well at this point but this plan has been changed and the company will go deeper.

Imperial Valley a New Field

For the past twelve months experimentation has been going on in the Imperial Valley, and these experiments together with several discoveries have tended to confirm the opinion of experts that large quantities of oil underlie the entire valley. As a result of these experiments and discoveries three companies are now engaged in drilling, and prices of oil land are increasing. If the belief of the experts is borne out by the drills California will soon become the largest producer in the world.

Trying to Revive Midway Chief.

Ever since H. L. Barber, the Chicago broker, attempted to float the stock of the Consolidated Midway Chief, that company has had a run of hard luck. The company has a lease on 20 acres on the Jade property, section 15, 32-23, Midway, and in developing its land the company encountered difficulties similar to those experienced by all operators in that section of the field. An attempt is now being made to revive the company and three propositions have been submitted to the stockholders, an assessment, a purchase of more stock or a complete shut down with the loss of all that has been invested.

Oil Lands for Sale or Lease !

Tide-water, Santa Barbara County

A. S. COOPER, Santa Barbara, Calif.



BRITISH BUBBLE PRICKED

Apparently the gas has been let out of the British bubble which for a time overshadowed all other matters in California oildom. When R. Tilden Smith, Andrew Weir and Arthur Grenfel appeared on the horizon and gave out the wonderful things they were going to do for the oil industry in California, everybody was glad.

Then when John Barneson and Eugene De Sabla entered into an agreement with the British promoters it was believed that the future of the industry was of a most roseate hue.

But now comes Victor Etienne with a suit to recover certain bonds, numbering 179, of the General Petroleum Company, and in his complaint he lays bare all the flimsiness of the foundation on which so much hope was built. Not only this but his suit may mark the termination of the British capitalization and it may, also, give those bond owners who so readily put their bonds in escrow, considerable trouble before they get them out again.

The bonds which Etienne seeks to recover are his part of the \$8,119,900 of General Petroleum securities deposited with the Mercantile Trust Company of San Francisco, under terms of the agreement by which \$3,000,000 in cash was to be advanced and the properties reorganized under the name of the Western Ocean Syndicate, limited, and the General Petroleum Company, Limited.

Etienne makes some very serious allegations in his complaint. He has no hesitancy in saying that the promises of reorganization were not only false but that they were known to be false by Weir, Grenfel and Smith, and that they knew them to be false at the time they were made.

In the importance of the promises is the significance of the downfall of the plan.

In addition to a refinancing of the General Petroleum Company of California the plan included the taking over of the Union Oil Company. Not only this but, according to the complaint of Mr. Etienne, Andrew Weir promised to induce large interests in Chili and Ecuador to give up the use of coal and buy California oil for fuel.

R. Tilden Smith was also a good promiser, according to the complaint, and he claimed to be backed by large ship owners, and even by the British admiralty, and if his promises were fulfilled all the ships of the British navy as well as most of the merchant marine would be burning California oil.

There was the usual glitter of high sounding names

and titles, so dear to the average American heart, and the new company was to have a directorate composed of Earl Grey, Lord Pirrie, Sir Alfred Jones, Lord Joicy and O. Anderson. All of these, it was announced were most prominent ship owners, and every one of them was going to have their ships burning California oil at once.

According to the agreement, under which Etienne's bonds were deposited, when \$6,000,000 of the General Petroleum bonds had been deposited the company was to receive \$1,500,000 in cash to liquidate some of its most pressing obligations; when \$9,000,000 worth had been put up there was to be another \$1,500,000 sent over. But alas for the glittering promises. When \$8,119,900 worth of bonds had been put up nothing had come back, and not only this but it is claimed in the complaint that Weir, Grenfel and Smith prevented the deposit of \$5,000,000 worth of bonds securing an issue of gold notes with the intention of preventing the completion of the conditions under which the final payment of \$1,500,000 would have become due and payable.

It is also claimed that instead of the board of directors with glittering titles a board was organized made up of dummies. As a result of all this Etienne asks for a redistribution of the securities to their original owners. But now comes the question as to what jurisdiction an American court will have over a British corporation.

At the time of the reorganization the transfer of the General Petroleum securities was made to the holding corporation whereby the individual stock certificates and the coupon bonds were cancelled, and one stock certificate and one registered bond being issued against the cancelled securities. This stock certificate and registered bond were forwarded to the General Petroleum, Limited, by the Mercantile Trust Company, and it is understood that Weir caused these securities to be deposited in Montreal, or elsewhere under British jurisdiction. All that the Mercantile Trust Company has to show are the cancelled securities.

If Etienne succeeds in getting a judgement and a court order for the return of the securities, the question will then arise as to what mode of procedure will be followed to get them back, have them cancelled and have everything as it were in the beginning.

It certainly is a badly mixed affair any way it is looked at, and the only clear point in the muddle is that the General Petroleum Company is not affected, except as to who owns its bonds.

Smelting With Oil Solved by Student

That which chemists and scientists of all lands have been seeking without success, for many years, the smelting of ores with crude petroleum, is said to have been accomplished by Bruce Marquard, a student of the University of California. According to recent announcement sent out by the University there is no question regarding the success of the experiments of Marquard, and undoubtedly there will be a revolution in steel and iron works the world over if it be true that this is more than a laboratory proposition.

The announcement says that the practical operation of a hydro-vacuum furnace has been demonstrated in the mining engineering laboratory by Bruce Marquard, a senior in the mining college of the University of California. Mr. Marquard's graduation thesis, just completed, is based on six months' chemical and physical laboratory work undertaken to establish the theory that crude oil, a California product, can be used in the ore smelting industry with greater economy than English coke, developing a temperature of over 4000 degrees Fahrenheit; that smokestacks are no longer necessary to high temperature furnaces, and that smoke containing sulphur gases can be passed through water and solid sulphur recovered. The entire success has been accomplished through the application of a centrifugal pump equipped with an ejector.

Mr. Marquard's research work involved the task of the actual construction and operation of a furnace which was built on lines diametrically opposed to the present so-called blast furnace now commonly employed in the steel, iron and smelting industries. The results obtained are regarded as highly important contributions to the engineering world because of the absolute control of oxygen in the combination of fuel. Modern mechanical apparatus, through the tests made, has demonstrated that the blast furnace has served its purpose and is obsolete.

The laboratory work proved that 3 1-2 barrels of fuel oil, costing approximately 65 cents per barrel, will generate British thermal units of heat equal to a ton of coke costing \$22 and that the type of furnace, which has no smokestack, allows the smelting of sulphurous ores (copper) without generating sulphuric acid gas, which has heretofore been the insurmountable problem to the copper and ore mining companies of this state, notably at Coram, Keswick, Kennett and other locations on the Shasta copper lode.

A third item of importance, and one regarded as highly improbable until the laboratory work has been submitted, was the recovery of sulphurous gases as solid 92 per cent pure metallic sulphur in the water tank unit of the furnace. The chemical laboratory tests proved two fundamental chemical reactions heretofore never associated, and which Mr. Marquard's thesis contended for. The first reaction proves that sulphur dioxide gas and hydrogen sulphide gas combined under proper heat give water and solid sulphur. The second reaction proves that water, in the form of steam and combined with pyrite (iron sulphide) gives iron oxide, hydrogen sulphide and sulphur. In the laboratory work the sulphur in both cases was condensed in a water tank.

The chemical laboratory work establishes the fact that if these chemical reactions could be controlled in a furnace, the so-called "sulphur fume" problem would be solved for smelters. Mr. Marquard was then authorized by Professor E. A. Hersam, associate professor of metallurgy, under whose observations the thesis work

was being done, to construct a furnace which the student contended would afford the proper control of oxygen.

The construction was accomplished in the Hearst memorial mining building physical laboratory. The plant consisted of a 700-pound capacity fire-brick ore smelting cylinder mounted on a concrete base and equipped with oil burners. A syphon leading from the top of the smelting cylinder connected with a vacuum chamber attached to a centrifugal pump. The pump was equipped with an ejector discharging a stream of water at a rate of 1125 gallons per minute into the vacuum chamber. The vacuum created was of greater efficiency for draft purposes than that of the present furnace chimney. The plant was operated by a 30 horse-power electric motor attached to a 6-inch pump. Smoke and fumes drawn off the top of the smelting cylinder were passed through the vacuum chamber mixed with the water from the pump and discharged into a 5000-gallon water tank, where, in the case of all sulphurous ores, the sulphur fumes combined with the water and solidified.

The tremendous heat generated by the suction draft (over 4000 degrees Fahrenheit) with crude oil as a fuel was unexpected. The furnace was equipped with an Orsat gas testing gauge to determine the chemical reactions.

The effect of the work on the future of the ore smelting industry is problematical, but it is now conclusively demonstrated that oil as a fuel has crowded into another industry; that foreign coke, vast quantities of which are annually imported into the United States from England, has a California competitor in the great steel mills of the east and that hereafter western ore can be operated on a basis which will permit competition with eastern producers in view of the proximity of the new fuel. A number of mining and mechanical engineers were invited to witness the smelting of iron, lead, copper and cinabar ores which was accomplished with uniform success. A special operation on city refuse, at which a number of city engineers from various points in the state were present, was accomplished and hydro-carbon gas (fuel gas) generated by a by-product as the furnace charge burned to a solid inorganic mass of ash and metal.

It is rumored that the Standard Oil Company has found a light gravity oil in its experimental well on section 5 in the Kern River field. The activity of the company in this field has brought much interest and a host of speculators and promoters are on the field.

Big Russian Gusher Still Flows.

Much interest has been excited by the great gusher which came in some weeks ago in the Maikop field, in Russia, and the following relating to it from the London Petroleum World, will serve to give some idea of what the big well is doing:

The gushing well of the Maikop Combine, Ltd., on plot 457 of the Maikop field of Russia, still continues to flow. The bringing in of the well, the largest ever got in this field, was announced in the Petroleum World. It may now be stated that 1,500,000 pounds (nearly 25,000 tons) of oil has been saved. Oil is now being piped direct from the well to the pipe line pumping station, thus avoiding loss of benzine (petrol or gasoline).

The oil resembles the light oil characteristic of Shirovsky, Maikop. It has a specific gravity of 8.850 and contains about 30 per cent of benzine. At first, when the well was not under control, most of the benzine escaped, and a rough analysis taken then showed a small quantity of benzine and about 37 per cent of kerosene. Later the well was got under control and the oil is being piped away with no loss of its lighter constituents, and another analysis of the oil under these conditions shows the very large percentage of benzine above stated.

Merchant Marine Referendum

Washington, D. C.—What means representative commercial organizations favor for upbuilding a permanent American merchant marine may soon be known as a result of a referendum submitted by the Chamber of Commerce of the United States to upwards of six hundred chambers of commerce and national trade bodies, throughout the country representing some 300,000 business men. All votes must be in by Tuesday, June 22. The canvass will extend to every state in the union.

In view of the nation-wide discussion which has preceded this referendum—the ninth in the history of the National Chamber—the questions submitted are of particular interest. The ballot is divided into two groups. First, organization members are asked whether or not they favor:

(1) The Government undertaking the purchase, construction, or charter of vessels for mercantile purposes, together with the operation of such vessels.

(2) Ownership of merchant vessels by the Government but with operation by private parties under leases.

(3) Subsidies from the Government sufficient to offset the difference in cost between operation of vessels under the American flag and operation in the same deep-sea trades under foreign flags.

(4) Subventions from the Government to establish regular mail and freight lines under the American flag to countries in which the commercial interests of the United States are important, and to American dependencies.

In the second part of the ballot are set forth recommendations by the National Chamber's special committee on Merchant Marine, of which William H. Douglas, of New York, is the chairman and the other members are, Bernard J. Rothwell, Boston; Thomas L. Stitt, Chicago; John A. Penton, Cleveland; Edwin J. Clapp, New York; Ludwig Nisson, New York, and H. A. Black of Galveston. Organization members are asked to favor or oppose the following:

(1) The creation of a Federal Board to investigate and to report to Congress regarding the navigation laws and to have full jurisdiction under the law, in all matters pertaining to over-sea transportation.

(2) That the government subscribe to the entire stock of a Marine Development Company with a capital of thirty million dollars, this company to have authority for seven years to lend, under supervision of the Federal Shipping Board, upon the security of first mortgages on merchant vessels, taking as evidence of this indebtedness bonds which bear a fair rate of interest and contain provisions for amortization, the development company to guarantee the bonds as to principal and interest and sell them to the public.

(3) That the Ocean-Mail Law of 1891 be amended by lowering the speed for first-class steamers from twenty to sixteen knots and for second-class steamers from sixteen to twelve knots, and by making the compensation adequate to permit the establishment of lines of steamships carrying both mail and freight.

If at the expiration of 45 days—June 22, the date mentioned above—one-third of the voting strength of the National Chamber has been recorded and two-thirds of the votes thus cast represent at least twenty states, the question will be recorded as having passed one way or the other and the Chamber will endorse accordingly. If, however, before the above mentioned time votes representing more than two-thirds of the voting strength of the organization membership are registered favorably or adversely to the proposition the results will thereupon be recorded by Elliot H. Goodwin, General Secretary, as having been approved by the Chamber.

Possibly no question which the Chamber of Commerce of the United States has submitted to its members has been more widely discussed. As a result of the European war and the accompanying disturbances of ordinary means for ocean transportation, the executive committee of the board of directors late last summer authorized President Fahey of the National Chamber to appoint a special committee to consider means for up-building a permanent American merchant marine. Before taking this action the Executive Committee had participated last August in important conferences at the Treasury Department. At these conferences it appeared that not only the administration but also representatives of commercial organizations sought a way for establishing the American merchant marine on a permanent basis.

On February 1 the committee made a report to the Board of Directors. This report was ordered to be submitted at the Annual Meeting. Subsequently, a minority report, signed by Professor Edwin J. Clapp, was filed. At the Annual Meeting, on February 4, after the Secretary of the Treasury, William G. McAdoo, had spoken in advocacy of the pending bill for Government purchase or construction of merchant vessels and the senior Senator from Ohio, Theodore E. Burton, had spoken in opposition to the measure, the majority and minority reports were submitted. Much debate followed, resulting in a vote of 161 to 90 on a motion of the chairman of the committee, Mr. Douglas, that the Chamber at once adopt the Committee's views that government aid is absolutely essential but that government ownership of merchant vessels as proposed in the Ship Purchase Bill, last winter, is wrong in principle. These views of the committee were the substance of the first two of six different points which it made in a summary of its report. The vote at the annual meeting, not showing two-thirds in favor of the motion was insufficient under the by-laws of the Chamber to determine its attitude. On a subsequent motion the whole report and all of its recommendations were ordered submitted to organizations in the membership for a referendum vote.

These referendums are issued wherever a subject arises upon which the National Chamber desires the sentiment of the business men of the country. Eight referendums have thus far been issued. The last one was a year ago on trust legislation relative to proposals for legislation regulating business practice. A permanent tariff commission, a national budget, the Owen-Glass Currency Bill, the development of the Bureau of Foreign and Domestic Commerce, and a bureau of legislative reference and bill drafting for Congress, have been among the important questions considered. Voting on the Merchant Marine referendum will begin as early as this week.

Petroleum Transport Dividend.

The Petroleum Transport Company has declared a regular quarterly dividend of \$2 per share, amounting to \$54,000. The Petroleum Transport Company is one of the allied companies of the Mexican Petroleum formerly owned by Edward Doheny. The dividend is payable on stock of record June 19.

Oil Stock Swindler Wanted.

Texas got stung by an oil stock swindler and caught the man in New Decatur, Alabama, but the officer could not keep him and he escaped to California, where he sought work. He was arrested in San Francisco under the name of Edward Davis and has been taken back to Texas to answer the charge.

Mexican Oil Industry

In a lecture on "The Oil Industry in Mexico," delivered by R. P. Brousseau, the history of oil in Mexico, the geology of Mexican oil, description of the fields, of the character of the oil, of pipe lines, railways and refineries as well as companies operating in that country were dealt with comprehensively. Production only began on a large scale in 1907, said Mr. Brousseau, when Mexico figured in world's statistics with 1,000,000 bbls.

"In northern Vera Cruz," he continued, "one may say that out of 70 promising localities for oil only some 19 have been tested and out of these at least 15 have proved to be commercially productive. The whole production is at present coming from 12 fields, six of which are controlled by Pearson interests, who produced about half of the 23,000,000 barrels, which was Mexico's production for 1913. Up to the present there has been some 550 wells drilled since the beginning of exploitation for oil in Mexico, of which 130 have been drilled during the past year. The above production cannot in any way be taken to indicate the capacity of those wells which were productive, as the output is limited to the carrying capacity of the pipe lines, and in the cases of the Panuco and Topila fields, to the barging facilities on the Panuco river. The present fields are exceptionally well situated in being mostly within 30 miles of the sea, which has had a very beneficial effect in their quick development."

Mr. Brousseau stated that there are 186 oil companies registered in Mexico, of which only about 50 are actually working. The capital of 28 of these companies is £20,902,666, of which 25 are producing. The character of Mexican oil is asphaltic, Mr. Brousseau said. It appears to become better toward the south and at the southern end of the northern belt an oil is found having a specific gravity of .804, viscosity, 143 sees. Redwood at 100 degrees F. Pearson interests have a large production of middle-grade crude Mexican oil, together with practically all the light class oil production, he said.

"There are about 425 miles of pipe line laid down in Mexico, of which the greater part is of 8-inch diameter," said Mr. Brousseau. "There are some 51 miles more under construction. There are 86 miles of light railway in use in connection with the oilfields, and there are 35 miles under construction; in addition, some 54 miles are projected."

Mr. Brousseau treated the operations of the Mexican Eagle Oil Co. with some detail. It has over 200 miles of pipe line, miles of narrow-gauge railway, and steel storage tanks aggregating over 2,000,000 barrels in Mexico. The large refinery at Minatitlan is capable of turning 1400 tons of crude petroleum daily into a complete range of high grade products, he stated. Another refinery of even larger capacity is under construction at Tampico and should be completed in June. It will have a capacity of about 4000 tons of petroleum per day. The company's tank steamer business handled by the Eagle Oil Transport Co., is one of its most important branches.

"The domestic trade of the company," said the speaker, "is in a very strong position today, supplying several of the Mexican railways and other large industries with petroleum product through over 160 depots. The refined consumption of Mexico is well over 2000 barrels per day."

"It is a remarkable fact," said Mr. Brousseau in conclusion, "that Mexican oil has been shipped to two-oil-producing countries, the United States and Russia, and

to which Mexico stands third in output. It serves to suggest that at no distant date Mexico may contest these countries for the distinction of second place in the list of the world's oil-producing countries. The production of Mexican oil has arisen in six years from 1,000,000 to 23,000,000 barrels, and it is interesting to note that the rate of increase has not been surpassed by any of the great oil-producing States of the United States in their early stages."

Mr. Brousseau was of the opinion that the oil resources of Mexico are but at the beginning of their ultimate prosperity.

Slavs Destroy Oil.

Good News for American Oil operators is contained in the dispatch presented herewith. The loss of so much oil property and the tremendous use of oil in the pre-war oil property and the tremendous use of oil in the pre-war of an immense demand for oil and oil products at the close of the war. The Derrick forecasts that all the oil now in storage above ground, and all wells which are now shut in will be hard put to accommodate the great demand which is facing the American oil producer. One of our largest assets will be the immense amount of oil now above ground which is ready for immediate shipment.

Berlin, June 3, via London.—News from the Galician front concerning the retreat of the Russians indicates they fired and destroyed twenty or more great crude oil wells as well as a number of wells from which naphtha is derived, in the oil-producing region between Boryslaw and Drohobycz, lying to the west of Stry. It is estimated that 80,000 tons of oil was destroyed.

Although the fires have been brought under control by the Austrian and German troops, the whole territory is covered with a pall of smoke.

The Russians had been using the wells for the production of illuminating oil, benzine and grease. They are said to have spared the English and French owned wells.

The Austro-German forces recaptured the mineral wax mines at Boryslaw, the only ones in Europe. Their annual product is valued at 3,000,000 crowns (\$600,000.)

The West America Oil Company, operating west of Sulphur mountain, on the Ojai lease in Ventura County, is preparing to resume operations in well No. 1, after cementing off the water at about 1,900 feet.

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Oil Well Drilling in Canada

U. S. Consul Samuel G. Reat at Calgary writes that five wells in the southern part of the Province of Alberta have now produced oil in more or less quantities. The results show that the oils are of a varied nature and that they compare favorably with oils from some of the well-known fields of the United States. (The Consul furnished some preliminary analysis by a consulting chemist, copies of which may be had from the Bureau of Foreign and Domestic Commerce or its branches.)

Hull Uses No New Barrels.

United States Consul Charles M. Hathaway, Jr., writing from Hull, England, says:

Inquiry among the Hull oil shippers, made in behalf of an American exporter of oak and gumwood and staves for barrels discloses the fact that practically no new barrels are used in the Hull oil trade. Oak barrels are the general containers, though occasionally beech or other woods are used, and shipments in steel drums and steel barrels are also being made. Most of the barrels are said to come originally from the United States to Great Britain filled with petroleum products, and are brought up here by the Hull oil mills, repaired if necessary, and refilled for shipment to the United States and to other destinations. It is a rather striking fact that so extensive a user of oak barrels as this oil-producing district should be a purchaser of practically no new barrels or material for barrels. The case with the paint manufacturers and coal-tar distillers of Hull seems to be much the same as that of the oil millers.

"Business and Public Feeling."

The following from the Standard Oil Bulletin of April, is pertinent to the present business conditions:

A spirit of sober and intelligent inquiry is spreading throughout the land. The American people are asking themselves some real and searching questions which go to the root of things. They want to know if the vital, enduring interests of government and politics are separable from the vital and enduring interests of the American people. Can officials at Washington continue indefinitely to oppose the great business interests of the country and to ignore the capable men who conduct them, and at the same time hope to contribute substantially to the prosperity of the country? Can an important part of the population, comprising some of its best brains, its highest character, and its most skilled talent for organizing the business and economic activities of the United States, be persistently harried without in the end causing the public to suffer?

Oil Fields of Argentina.

United States Vice-Consul Eli Taylor, of Buenos Aires, sends the following translation of an article appearing in La Nacion, of that city:

The Argentina oil deposits at Comodoro Rivadavia were discovered on December 13, 1907, and a beginning was made at working them on a small scale for account of the Government. The recent tour of the Argentine Minister of Agriculture through the southern territories had as its chief object to become acquainted with the Chubut oil deposits and study what is needed to expedite the extraction of the oil. Dr. Calderon devoted two days to this investigation, in which he was advised by the technical staff set over the works.

The advantages presented by the geographical situation of Comodoro Rivadavia for working the deposits are numerous, especially as regards fuel transportation. The part of the reserved zone that is being most actively worked at present lies right on the coast, which presents great natural advantages for the construction of a port—a work that will be demanded at no distant date by the development of the ore fields and of the commercial traffic of the region.

The 21 wells that constitute the total worked, 8 of which are producing and the rest being bored or repaired, comprise a considerable belt of land surrounded by a series of hills that slope gently down to the sea.

There exist at the present time 8 wells giving output, 3 under repair, 9 that are being bored, and 1 well that is being fitted up.

In 1907 and 1908 the only well working was No. 2, and the yield in the two years was 100,800 barrels and 11,471,903 barrels, respectively. The grand total of the output of all the wells from the commencement of extraction in 1907 to March 26 of the current year is 602,746,063 barrels.

Oil And Gas Fields in Kentucky

In connection with the preparation of a report on the oil and gas fields of the southern Appalachian region a general reconnaissance examination of the oil and gas developments in Wayne and McCreary counties, Ky., has been made by M. J. Munn, of the United States Geological Survey, in cooperation with the Kentucky Geological Survey. The amount and nature of the material brought to light by the work has warranted the publication of a report on this region by the Federal Survey prior to the completion of the work in the entire Appalachian region. This report has been published by the United States Geological Survey as Bulletin 579.

Most of the drilling to the Beaver Creek "sand" is done with drilling machines. The wells are shallow, ranging from about 400 to 1,000 feet. The cost of drilling a well to the Beaver Creek "sand" and of putting it to pumping ranges from about \$1,000 to \$2,000. A large item of this cost is hauling, for the oil fields, especially those in the southern part of Wayne County, are remote from railroads, and most of the oil-well supplies are brought from Burnside, a railroad station 20 to 40 miles distant.

A copy of the report may be obtained free on application to the director of the Geological Survey, Washington, D. C.

Laboratory Test of Lubricants.

The Treasury Department has issued Department Circular No. 45, 1915, stating that deliveries of the following guaranteed lubricants which do not fulfill certain requirements essential to satisfactory lubrication may now be rejected without the necessity of service tests: Item 8420-b-6, cylinder oil for gas engines; item 8420-c, engine and turbine oils; item 8420-e, machine oil; and item 8420, spindle oil.

The circular sets forth that purchasing officers of the departments and bureaus in Washington, immediately upon receipt of deliveries of the above-mentioned oils, should submit a 1-quart sample to the Bureau of Standards for analysis and report, and that said oils be accepted or rejected as indicated by the laboratory report.

It states that at the present time there is not sufficient information at hand to warrant either the acceptance or rejection for most bureaus of other oils under item 8420 except upon service test. The number of necessary service tests may, however, be greatly reduced by ordering these oils, especially steam cylinder oils, in as large quantities as storage space will permit. One barrel may be given a service test. If unsatisfactory, the entire shipment should be rejected. If satisfactory, the uniformity of the shipment may be determined by laboratory tests made at the bureau of Standards.

Samples should be marked for identification and delivered to the Department of Commerce, platform in the rear of Nineteenth and Pennsylvania Avenue NW., Washington D. C.

The Shell Sells Trumble Patent

Application has been made to the California Commissioner of Corporations by the Simplex Refining Company, which has an authorized capitalization of \$2,000,000 to turn over \$1,000,000 of its stock to W. Meischke-Smith, who is the California representative of the Shell interests, in exchange for the rights to the patents covering the Trumble process for refining petroleum.

The Trumble process was originally financed by the General Petroleum Company, which bought a half interest for \$75,000, and assumed certain obligations to carry on the work. The payment for this half interest was used for securing patents in seventy-two countries. When Andrew Weir took control of General-Petroleum he assumed a somewhat arbitrary attitude toward the Trumble people with the result that he nearly broke the relations between the inventors and the General Petroleum Company.

Because of Weir's activities the General Petroleum Company was unable to fulfill its obligations toward the Trumble Company and finally consented to turn its interests over to the Shell people. The Trumble process was thereupon sold for \$1,000,000, of which \$900,000 has been paid and \$100,000 has been withheld pending final action on certain patent applications. Of this sum the General Petroleum receives one-half, less \$50,000 owing the Trumble Company. In other words the General Petroleum Company has received \$400,000 in cash for an investment of \$75,000 and will receive \$50,000 more on completion of the deal. In addition to this handsome profit the General Petroleum Company retains the right to use the process in California.

Mexican Situation Improves.

Writing from Tampico, United States Vice-Consul Thomas H. Bevan has the following to say regarding the oil situation in that district:

Despite revolutionary troubles in the Republic, many substantial improvements were made during the year by oil companies, the value of which amounted to many thousands of dollars. In brief, the principal items were as follows:

Mexican Eagle Oil Co., (Ltd.) completed an 8-inch pipe line from its Las Naranjas field to San Diego, where the line taps the company's main 8-inch line extending from Tanculco to Tampico. This line will permit transportation for the company's production in the Las Naranjas field. The company also relaid its main pipe line from Bustos (pumping station) to Tampico with 8-inch, a 6-inch line formerly serving this link. The company completed its topping plant, necessary docks, etc., at Tampico, the plant, with a mean capacity of 12,500 barrels crude per day, commencing operations August 15. The company is rebuilding its pumping station at Bustos, the original station having been destroyed by fire April 28, and a pumping station at Las Naranjas is also nearing completion. The company's railroad from La Pena to Potrero was rock ballasted and relaid with 25-pound steel rails.

Penn-Mex. Fuel Co. completed an 8-inch oil line and a 4-inch water line from its producing wells at El Alamo to Tuxpam, a distance of 48 kilometers (about 30 miles), and as the year closed was practically ready to commence the shipment of oil from Tuxpam. The line is fully equipped with necessary pump stations (some stations are temporary at this writing), and these loading lines at Tuxpam are ready to be laid. The company also has completed its railroad from Zapotal to El Alamo, a distance of about 14 miles, the first named being its terminus on the Tuxpam River, supplies being transferred at this point from barges to the railroad, which thus far has been operated with mule power.

Huasteca Petroleum Co. completed the laying of a second 8-inch pipe line from its main pipe-line system at Juan Casiano to Cerro Azul, a distance of 22 miles, thus amply preparing for production at Cerro Azul and points beyond. The company's railroad already extends to Cerro Azul and the closing months of the year found a survey being actively conducted south to the company's proposed rail terminus at El Chapapote Nunez, on the Tuxpam River. A survey for a 4.35 mile spur track at Piedra Labrada is also included. The additional railway mileage completed by these surveys aggregates 30 kilometers (18.64 miles). The company has also completed the first unit, having a capacity reckoned at 10,000 barrels of crude per day, of a large topping plant at its Tampico terminus.

East Coast Oil Co. completed the first section of its contemplated pipe line from Panuco to its ocean terminus at Torres 8 miles in length, located from its main pumping station in the Panuco field at Ponce, a river terminal. The company began shipping oil from its Panuco wells to Ponce via this line, thence by barge to Torres, thereby saving a 20-mile river haul. The line demonstrated that an 8-inch pipe line can handle heavy Panuco

crude with proper pumps, the line working at maximum capacity with oil heated at the pumps to 150 deg. F., the pressure at the pumps being 800 pounds.

A Bank's Idea of Oil.

That the oil business of California is one of the important industries everybody concedes, but it has been difficult to get financial institutions to give to the industry the recognition which the oil operators think it deserves. Present conditions of the oil industry, however, are so pregnant with ill to the general business of the state that at least one great bank has seen fit to comment on it, and in the regular financial letter of the Anglo and London-Paris National Bank of San Francisco appears the following summary of the oil situation:

The oil industry of the state is not in a very satisfactory condition, owing to causes quite beyond control of operators. The market for California heavy crude oil is limited to the Western Coast region of North and South America and increases and decreases with the activity of industry and transportation. The products of the refineries, however, have additional large outlets in Asia and Australasia, and in those products demand holds up very well, but there is a great scarcity of tonnage. Production of heavy oils has been largely in excess of demand in spite of repression wherever possible. A number of things compel production regardless of the wishes of the operator. Among these are occasional uncontrollable gushers, provisions of leases, danger of ruin to idle wells by water or sand and of loss by drainage to nearby wells. Production, however, has been gradually reduced until recently it has been nearly overtaken by a slightly increased consumption. This is fortunate, for wherever there is a tank it is full and the smaller operators are nearly to the limit of their ability to provide new storage. In fact, the most serious trouble is among the smaller concerns, especially those operating on land withdrawn from entry by the President and who, although they had incurred large expense, had not made actual "discovery" within the meaning of the law at date of withdrawal. These people kept on with their work and there were some new locations, for they did not believe that an order of the president could suspend a United States statute. Two United States District Judges and three Justices of the Supreme Court agreed with them, but four Supreme Court Justices held otherwise and all these operators are at the mercy of the government. What course will be finally taken by the government is not yet known. In the aggregate many millions of dollars, most of which was certainly invested in good faith, are involved.

Decline in Export Trade.

Shipments of California crude and refined petroleum in bulk by sea during the month of April made a very poor showing as compared with the exports for the preceding month and for April, 1914. Shipments of both refined and crude for April made a new record for the year, while the difference between the shipments for April, 1915, and for April, 1914, was all the more noticeable because of the fact that the export movement attained a new high record a year ago. April's shipments were distributed as follows:

Refined to—	Gallons	Values
China	2,776,141	\$121,710
Japan	1,677,334	73,803
New Zealand	680,440	75,975
Totals	5,133,915	\$271,492
Fuel to—	Gallons	Values
Canada	7,919,940	\$117,142
Hawaiian Islands	5,403,695	89,789
Panama	4,110,000	70,500
Hongkong	1,733,886	26,834
Totals	19,167,521	\$304,265

The shipments for April, 1915, in gallons, compared with April, 1914, as follows:

	Refined	Fuel	Totals
April 1914	11,218,089	43,577,113	54,795,202
1915	5,133,915	19,167,521	24,601,436

Decrease 6,084,174 24,109,592 30,193,766
The total value of the shipments for April, 1915, was \$575,757, as compared with \$1,238,934 in April, 1914.

The foregoing figures are for bulk shipments only, and do not include shipments of illuminating, motor or lubricating oils in cases.

Poul Lindholm, engineer of highways, Copenhagen, Denmark, has been awarded the traveling Fellowship of the American Scandinavian Foundation for 1915-1916. He will devote a year at Columbia University.

Oil Activities In April

According to the Standard Oil Bulletin oil field statistics carry little of interest for the month of April aside from the increase in field shipments and a small reduction in crude oil stocks. Production for the month is estimated at 244,703 barrels, which, compared with March, shows a daily increase of 554 barrels. Shipments were at the rate of 248,740 barrels daily, providing a daily shipment of 4,033 barrels in excess of production. Shut-in production is placed at 21,000 barrels daily.

During the month there were seventeen well completions with a daily output of 4,170 barrels.

At no time during the past eight years have California oil fields been so inactive, and the general curtailment of development work is well illustrated in the low number of completions during the month of April.

Summary of developments and production for all California fields in April is as follows:

FIELD	New Rigs	Drilling Completed During Month	Abandoned	Wells Producing	Production Per Day
Kern River		2		1,429	18,425
McKittrick				268	9,908
Midway-Sunset	9	44	2	1,326	108,172
Lost Hills-Belridge		6	2	241	12,249
Coalinga		10		819	38,910
Lompoc and S. Maria	1	8		242	12,115
Ventura Co., Newhall	3	16	1	441	2,717
Los A. and Salt Lake		1		687	6,177
Whittier-Fullerton	4	65	4	589	35,807
Summerland				102	148
Watsonville				5	75
Totals	17	125	17	6,149	244,702

Total crude oil stocks, April 30, 1915, 60,656,177 barrels.

Total shipments from fields, April, 1915, 7,462,219 barrels.

Independent Producers say "Normal."

According to figures compiled by the Statistical bureau of the Independent Oil Producers Agency, an increasing demand for petroleum products is shown by the March shipments, which were the highest recorded since October, 1914.

A pleasing feature noted in April was the continued tendency toward curbing the daily potential surplus. Oil operations all over the state have expressed themselves as becoming alarmed over the rapidly increasing stock of stored oil, but now are evidently meeting with success in their efforts to check the production to a basis commensurate with the ability of the markets to absorb the output.

Since the beginning of 1914 stocks of oil in California have increased approximately 20,000,000 barrels, bringing the total to date almost up to 60,000,000 barrels. Judging roughly on the basis of present shipments marketers in California could supply the demands made on them for eight months from the oil now above the surface without having to produce any more. While it would be impossible for them to curb the output for this or any other time, operators have apparently formed a "silent partnership" with a view to discouraging as much as possible new development work. During April a total of 7,195,044 barrels was shipped, as compared with a production of 7,336,900 barrels.

General Petroleum Condition Improves.

A comparative balance sheet just issued by the General Petroleum Company indicates, notwithstanding the troubles which have beset that company owing to unfilled promises on part of outside financiers, that there has been a marked improvement in the affairs of

the company in the past four months. The changes are particularly noteworthy under the items of current assets and current liabilities. To the refusal of Andrew Weir to make an accounting is attributed the large items under deferred charges and credits. There was noted under capital liabilities, made up of \$36,068,700 stock; \$12,380,300 6 per cent bonds; \$90,000 Esperanza Oil bonds; \$6700 Delaware Union Oil bonds; \$2,868,000 6 per cent notes; total \$51,413,700. The balance sheet shows the following:

ASSETS		Dec. 31, 1914	April 30, 1915
Capital Assets—			
Stocks of cont. and other cos.	\$	1,210,360.83	\$ 1,189,610.83
General Pipe Line Co. bonds		425,000.00	425,000.00
Oil lands		49,330,564.80	49,352,676.18
Prop. of admin. to Dec. 31, '13.		329,492.23	329,492.23
Oil wells (exhibit "A")		4,096,130.41	4,147,619.69
Field equipment (exhibit "A")		1,383,484.63	1,422,937.60
Other equipment (exhibit "A")		534,015.60	585,760.46
Totals	\$	57,309,048.50	\$57,453,096.99
Advances to controlled companies—			
Federal Oil Company	\$	15,136.59	\$ 15,165.44
General Construction Company		218,282.02	218,282.02
General Water Company		44,705.07	45,452.13
Miscellaneous		934.25	71.80
Totals	\$	279,057.93	\$ 278,971.39
Casing and supplies (exhibit "A")	\$	205,324.84	\$ 210,375.63
Current assets—			
Oil in storage	\$	1,146,264.87	\$ 1,184,242.59
Notes receivable		5,710.50	531.00
L. O. P. A. certificates		2,261.00	1,175.96
Oil accounts receivable		352,322.57	384,287.20
Other accounts receivable		48,669.08	50,968.13
Andrew Weir		933,333.33	933,333.33
Cash		14,001.30	230,974.52
Totals	\$	2,502,562.65	\$ 2,786,115.73
Deferred charges and credits—			
Prepaid insurance	\$	5,221.95	\$ 4,782.52
Prepaid taxes		12,413.12	12,827.92
Suspense—S. S. "Barneson"		54,615.85	4,403.79
S. S. "De Sabla"		63,745.03	84,367.81
S. S. "Belridge"		*77,023.22	*87,147.49
S. S. "Maricopa"		*83,226.72	*85,559.16
S. S. "Mills"		5,193.29	*15,765.48
S. S. "Frank H. Buck"			2,902.29
Disc., etc. London drafts		79,035.66	79,035.66
Andrew Weir & Co.		216,706.48	351,841.41
Miscellaneous		3,741.47	9,290.87
Totals	\$	280,422.91	\$ 355,175.56
Grand totals	\$	60,576,416.83	\$61,083,735.30
*Debit items			
LIABILITIES		Dec. 31, 1914	April 30, 1915
Capital liabilities	\$	51,432,700.00	\$51,413,700.00
Capital surplus		4,721,771.93	4,764,606.98
Current liabilities—			
Deferred payments on lands	\$	27,143.17	\$ 25,423.49
Notes Payable		295,666.15	145,627.15
Accounts payable		136,073.86	46,060.30
Audited vouchers		125,427.57	68,487.41
Audited pay rolls		26,198.86	26,369.50
Accrued interest		1,039,766.58	1,333,050.55
American Gasoline Co.		437,846.44	398,276.77
Western Ocean Synd., Ltd.		5,204.70	5,204.70
Lon. drafts (428,000 @ \$4.86½)		2,082,220.00	2,082,220.00
	\$	4,175,547.33	\$ 4,190,719.87
Liabilities to controlled companies—			
Genu. Pipe Line Co., current acct.	\$	441,424.31	\$ 702,620.90
Same—guarantee less G. P. Share		169,702.63	100,650.81
Trumbull Refining Co.		45,962.11	3,079.43
	\$	597,089.05	\$ 806,351.14
Deficit (exhibit "B")	\$	350,691.48	\$ 31,642.69
	\$	60,576,416.83	\$61,083,735.30

Producers Pay for Experiments.

An imposition of 20 cents a thousand barrels, as a tax is not very heavy, but it is sufficient to maintain the State Experiment station at the University of California for the purpose of testing oil. This is what the Chandler bill, which passed the legislature, calls for. The object of the station is to make quantitative analyses of all oil, and to determine the composition and commercial value of the product. As the work is to be done for the general good, and may be utilized by any producer, it works no hardship, but in order that there may be no question as to the amount of tax imposed the law makes it a misdemeanor for any company to refuse to give an annual statement of oil production.

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

Who says China is a backward nation? Sampan on the rivers of the country are now using gasoline motors.

Something must be the matter with Mexican oil. There is an extraordinary lot of it yet things do not run smooth down there.

E. L. Doheny is certainly an optimist of the first water. He is not saying much but his most eloquent silence indicates that he looks for a wonderful revival of oil business within the next year.

They are talking over giving a reception to Captain John F. Lucey, down in Bakersfield. If ever there was a man who deserved consideration at the hands of his fellow men it is that same Captain John F. Lucey, and when that reception comes off we do not want to be left out of the invitation list.

California Oil World, which presides so ably over the destinies of the Bakersfield country, is doing the public a distinct favor in its efforts to have governmental action against one N. P. Ladd, who is using the mails to catch suckers in a get rich (for himself) scheme.

The Shell Company has invaded the San Joaquin Valley field and is establishing sales stations in competition with the Standard, Union and Associated. Motorists have no cause for complaint so far as a plentiful supply of gasoline is concerned, when they go down the valley.

The Southern Pacific Company is trying to get rid of its holdings in Associated Oil. The important feature of this news item is the fact that enough oil is being produced on Southern Pacific and Santa Fe lands to supply all the fuel oil required by both these companies.

Sure, Frank. Go the Whole Hog.

Our most estimable secretary of the Interior, Franklin K. Lane, has put forth a splendid idea. Instead of opening oil lands to developers, lease them and get a royalty for the government.

Just think of it. If that had been done the government would have \$150,000,000 from the men "who took up the land for nothing."

Why stop at oil lands? Just think of the royalty that would have come from all our mines.

And how about the farms? If our farmers were paying royalty on crops raised on land that "was taken up for nothing," just think what would happen to the United States treasury.

Perhaps Secretary Lane thinks the man who spends his dollars and his time finding out whether land has oil, is some sort of a public freebooter, but the thousands of prospectors who have made California fields a possibility can scarcely be classed that way. Every industry has its pioneers and the man who pioneers the oil fields certainly has as much right to consideration as the man who pioneered the farm land.

Paternalism is going somewhat too far under the recent era of "frenzied reform" which has swept the country, and it might be well to "stop, look, listen" a little before crossing many more tracks.

Doheny Makes Big British Deal

According to Los Angeles newspapers Great Britain again looms up as the savior of the oil situation of the world. It is stated without qualification that when Edward L. Doheny recently returned from England he came home with one of the finest contracts ever entered into a contract that will require five huge oil vessels to carry out.

The contract in brief, is to supply Great Britain with fuel oil from Mexican Oil fields. Naturally the possibilities of this contract extend to the vast quantity of surplus oil now above ground in California, as well as to the future production of this state. Here is what Mr. Doheny says about it:

"The people we have contracted with will take more oil than we can produce from our properties. In the course of a year or two oil will be an under-produced commodity. The moment oil is adopted as fuel by one big line of steamers others must follow to keep pace with the times. Oil production, therefore, will not be great enough for all steam purposes and never can be made great enough."

In order to carry forward this big deal the five ships necessary for immediate service will be owned by the British Mexican Petroleum Company, Limited, a new corporation organized in England, half of the stock of which is owned by the Mexican Petroleum Company, Limited, of Delaware, the holding company for all the Doheny Mexican interests. The new company is to provide and maintain tanks and sales stations all over the world.

Mr. Doheny says shipments will begin as soon as possible, and when asked regarding the possibility of the war interfering with his plans, he replied that the contract was made while the war was in progress.

The idea is so large that it can scarcely be fully comprehended without some idea of what the ultimate outcome is to be. Mr. Doheny predicts that Great Britain is about to enter upon an era of industrial progress never before seen. Many of the largest ocean liners and merchant men are to be converted into oil burners, and great industries and transportation lines are to

use oil as fuel. So great will be the demand, says Mr. Doheny, that within two years oil will be a commodity under-produced instead of over-produced as it is now.

Naturally California is interested, if these statements are based on actual facts, it will be impossible for Mexico to supply the vast quantity of oil necessary to carry forward such immense projects. Especially is this true under present conditions in Mexico. With the Panama Canal as a direct route from California it is but natural that Mr. Doheny will call upon his California interests to fill the gap in supply. The enormous storage now on hand in California will be available for immediate shipment.

For some time there have been persistent rumors among posted California oil men that great changes were coming that would call for an immense supply of oil, and renewed activity in many of the California oil fields, while ostensibly for the purpose of carrying out lease provisions, and for the purpose of keeping wells in condition for operation, is believed to be the result of this inside information.

With the coming of this new factor into the field there is no reason why the prediction made in the May issue of the California Derrick should not quickly be realized. Better times are coming to the oil business, and the wise ones are not waiting for them to get here before getting ready to take advantage of this situation.

Glycerine Is Getting Short.

One of the effects of the European war that will be felt by those interested in oil development is the growing shortage of glycerine. At a recent meeting of the members of the Western Nitro-Glycerine Manufacturers Association held in Chicago, plans were discussed for pooling the present supply of glycerine, and for increasing the production of glycerine, which is an essential element in all high explosives.

Members of the Association claimed that the European war was necessitating the use of so much glycerine that the supply would be exhausted within ninety days, and the United States would be compelled to find some means of increasing its production.

If glycerine is exhausted, the speakers said, it will not only have an important effect on the war but much work, including oil development, will be brought to a dead stop.

In discussing the matter Albert Oppenheim, of Marietta, Ohio, said: "No explosive but nitro-glycerine has the shattering effect necessary for shooting oil wells. Glycerine is produced but from one source, animal sinews, and there is no way of increasing the production unless we can make use of the bodies of horses and men killed on the field of battle. In normal times the United States imports from Europe \$10,000,000 worth of crude glycerine annually, and now this supply has been entirely cut off."

Boston Looks For California Oil.

One of the signs of the times is to be seen in the recent visit to California of President John J. Moran, Vice-President E. J. Feeley and Treasurer F. L. O'Leary of the New England Oil and Pipe Line Company. These gentlemen have been inspecting the oil fields of Oklahoma and Texas and have come to California for the purpose of getting a complete understanding of the situation here, with the intention of purchasing large areas and making terms for the shipping of the new product to Boston. The gentlemen expressed themselves as surprised at the great production of Califor-

nia wells, and especially noted the large amount of oil above ground. While not being definite in their statements it was understood from some of their comments that they looked for an immense demand for both crude and refined oil and their products in the near future. In speaking of the situation Mr. Moran, who is also president of the John P. Moran Company, bankers and brokers of Boston, said that he anticipated an early solution of the European difficulties and with the coming of peace there would be a great increase in the demand for oil, which demand could be supplied only by the United States, owing to the unsettled conditions of Mexico and the fact that Russia was not in position to begin development as quickly as would be necessary.

Egyptian Wells Show Strange Flow.

According to the London Financial News, the most remarkable well on record belongs to the Anglo-Egyptian Oil Fields, Ltd., which has the strangest variation of any known well. The News says of this well:

It will have been noticed that the weekly outputs published by the Anglo-Egyptian Oil Fields (Ltd.) have shown remarkable and to some extent, unaccountable variation. Leaving out the phenomenal output in October last, when a new well produced 3000 tons in 24 hours and had to be shut in pending storage and transport facilities, results showed round about 1700 tons a week during the last three months of 1914, and from the beginning of 1915 they have wandered in the strangest way between 195 and 880 tons weekly. On March 9 a cable was published stating that the new well was brought in again.

Mascot Wants Relief.

It has been developed that the well drilling on the Mascot Company's lease in the Midway field was not the result of a new contract with the Standard or any other concern, neither was it due to a desire to put more wells on the producing list. The work being done is necessary under the leasing arrangements with the Mt. Diablo Oil and Development Company. Under the terms of the lease the Mascot Company is compelled to drill six new wells every year. The Mascot now seeks to have the terms modified in order to be relieved.

An Interesting Bulletin

The United States Geological Survey has issued the following bulletin that will be of interest to oil men:

Bulletin 531-B. Oil and Gas Development in North Central Oklahoma, by R. H. Wood. 1915. pp. 27-35, Pl. V.

Separate reprinted from Bulletin 531, "Contributions to economic geology, 1911, Part II." The region considered in this report includes lands formerly within the Pawnee, Otoe, Ponca, Kiowa, and Tonkawa Indian reservations, comprising about 82 miles from north to south and 60 miles from east to west in Grant, Kay, Osage, Pawnee, Noble, Garfield, Logan, Payne and Lincoln counties. Localities where producing wells and test holes have been sunk were visited, and an effort was made to get the exact location of all borings, the depth of each hole, the product and amount obtained, and a detailed log or record of the formations passed through by the drill. The author concludes that the prospects are good for the development of a number of pools in the region.

The Geological Survey distributes copies of these publications free (except the folios and maps), but can not give more than one copy of any free publication to any one person, and requests for all the papers can not be granted unless satisfactory reason is given. Payment for the folios and maps should be made by certified check or by postal or express money order (not postage stamps), payable to the Director, or in cash—the exact amount. Applications should be addressed to the Director, United States Geological Survey, Washington, D. C. The complete list of publications of the Geological Survey will be sent free on application.

It is reported that the Associated will put down a wild cat well on section 22, nine miles west of Lost Hills, near Caneros oil station, the plan being to sink to a depth of 5,000 feet if necessary.

News From the Midway Field.

Much of the work at present in progress in the Midway Sunset field is of a preliminary nature, considerable of it being done under lease stipulations. General dullness prevails in this district as in other parts of the country, but there has come a feeling of optimism that indicates a belief in betterment of conditions.

Later reports say that Northern Exploration Company's No. 2 well on section 16, 32-24, will prove a disappointment to the drillers, who are hoping to develop a gasser. The well is said to give promise of being a heavy oil producer.

The Virginia Pipe Line Contracting Company has been awarded the contract for laying a stretch of gas line from the Midway to the Standard Oil Company's refinery in the Kern river field. The contract calls for twenty-five miles of pipe, and was let by the California Natural Gas Co.. A crew of about forty men will be put to work at once and this will be increased to 150 men when the work is well under way. It will take about three months to lay the pipe. About half of the pipe required has already been distributed along the line surveyed.

The Oil Exploration Company, operating on section 17 and 19, 20-15, in the Coalinga district, has cleaned out five of its wells and the product is being run through the lines of the Kern Trading and Oil Co.

The Eagle Creek Company's No. 10 well on section 31, 311.123, near the townsite of Fellows has been successfully completed, and it is now flowing at the rate of 800 barrels a day. This well is regarded as one of the best in the north Midway field, as it is flowing steadily of its own accord, with the product testing 25 degrees gravity. This well was completed at a depth of 2330 feet.

Fullerton Shows Activity.

The Standard Oil Company is carrying about four hundred men on its rolls in the Fullerton-Whittier fields, at a cost of about \$40,000 a month. The company's drilling operations are only such as are forced by lease contracts. It has one well on the Piepenbrink lease down about 3000 feet and two on the Coyote lease down 2700 feet and connected. Active work goes on at the Emory and Murphy leases.

The Standard will probably abandon the Anchor lease Well No. 1, as it has been worked for more than two years, but yielded nothing in the way of paying results. In this well only the most difficult formations have been encountered. It has not been announced whether the failure of the well will cause the abandonment of the property.

On the Emory and Murphy properties in the Coyote Hills the big gassers continue to hold up well. The Southern Counties Gas Company now distributes this gas in Fullerton, Orange, Santa Ana and Anaheim, and has offered to sell it in Whittier, instead of the artificial product if the citizens will lay the mains by subscribing for stock. The gas is also to be used by the Anaheim Sugar Company at its factory. Gas from these wells is also used at the El Segundo refinery, and it is to be piped to the Tile factory at Los Nietos.

Fox and Campbell's Producer.

A few weeks ago Fox and Campbell, of Bakersfield, purchased the property of the old August Oil Company, on section 6, 11-23, in the Maricopa field, and now they have brought in their first well as a producer. The well

was drilled through the cement and after flowing for a while it was put on the beam for a cleaning out. The well is now being pumped and the new owners are confident that it will be restored to the producing list very soon. The new owners are so well pleased with their success that they have decided to start work on the No. 2 well as soon as No. 1 is on the producing list.

To Build Big Tanks.

The Traders Oil Company, of which M. V. McQuigg is president, owning and operating the southwest quarter of section 24, 20-14, and the north half of the north-completed and a monthly production of about 15,000 completed and a monthly production of about 25,000 barrels of oil is arranging to erect steel storage tanks to care for the surplus oil, as the company has been able to ship only about 9000 barrels a month, leaving a surplus of 6,000 barrels a month when running at full capacity.

New Officers Elected.

At the annual meeting of the Pacific Crude Oil Company, a dividend of half a cent a share was declared, showing that business was still on the profit side. The following were elected directors for the coming year: G. N. Easton, R. H. Gray, J. H. Hunt, John Lee, Jr., and J. W. Phillips. The board of directors elected the following officers: G. N. Easton, president; J. H. Hunt, vice-president; John Lee, Jr., secretary-treasurer and general manager.

Oklahoma Conservation Starts.

Advices from Oklahoma City, Okla., state that the corporation commission of that state has ruled that the actual daily production of the Healdton oil field must be confined to the quantity necessary to supply the daily market demand. Oklahoma is the first state to enact a law for protecting against wastage of crude oil.

Under the law, the commission is given power to regulate the conservation of the oil while it still is underground. The commission, which also is empowered to ascertain the potential production of the field, ruled also that nobody having the right to drill for oil shall take from the potential production of the field more than his equitable proportion.

Shell Company Increases Capital.

Amended articles of incorporation have been filed at Sacramento by the Shell Oil Company of California, increasing its capital stock from \$750,000 to \$4,000,000.

This increase is taken as an indication that the parent companies, of which the Shell is a subsidiary, are preparing to enter vigorously into competition with the Standard for California business. The Royal Dutch Oil Company and the Shell Transport and Trading Company of Amsterdam and London are waging a world wide war on the Standard, and have on several occasions given indications of desiring to invade this territory to an extent that could mean only a direct fight for supremacy with the Standard.

The Shell Company began its operations in California some three years ago by purchasing holdings in the Coalinga district, and it is now building a pipe line from the upper San Joaquin to San Francisco bay at a tidewater point where it is also constructing a refinery on the shore of Contra Costa county. It has also recently shown much activity in the erection of service stations throughout the state. The increase of capitalization would indicate a still further attack on the business of its strongest competitor.

CALIFORNIA CONCENTRATES

Water is still troubling the Quintuple No. 1, Fullerton, near Carlton.

A gas trap is being installed by the Montebello Company on its 38, the new 300 barrel well.

Kern Trading and Oil Company is starting drills on No. 31 well, section 35, 31-23.

Petroleum Midway, Ltd., No. 2 is again flowing 500 barrels daily.

Oil sand has been found in No. 2 well of the Potter Oil Company, on section 15, 31-22, Midway.

The Rice Ranch Oil Company is about to start a new well on its property in the Santa Maria field.

Dividends paid in the old Santa Maria field during 1914 amounted to \$500,000.

The St. Helens Petroleum Company, at Taft, is preparing to drill its No. 8 well on section 16, 32-24 as soon as the No. 7 is completed.

Preparations are being made by the McCutcheon Brothers of Maricopa to resume work on the McCutcheon lease on section 2, 11-24.

In the Fullerton district Brand and Stevens have leased 440 acres of hill land from Samuel Kreamer, for oil development. The property is situated near Yerba.

The Welcome Oil Company, section 2, 26-18, in the Coalinga district, has resumed drilling after a shut down of several months.

Philip B. Danbenspeck, superintendent of the Mohawk Oil Company, at Coalinga, died in the hospital there May 24, after a short illness from blood poisoning.

Electric motors have been installed by the Amity Company to pump its eight wells, section 1, 20-14, Coalinga.

After two years of unsuccessful work on its wells in Ventura county, the California Counties Oil Company has abandoned the enterprise.

Drilling is to be resumed on the West American well No. 1, west of Sulphur Mountain, Ajax Valley, Ventura county.

Jack Whaley, former superintendent of the Honolulu Oil Company, who has been in Japan for the past year, has returned to the Midway field.

Midwest refineries report a sale of more than half a million gallons of gasoline in one day. It required sixty seven tank cars to transport the day's output.

The Beatty Oil and Development Company, of Canada, is assessing its stockholders for development purposes. It is drilling a new well in Tapo Canyon, Ventura county, where its operations are being carried on.

Another refinery is to be erected in the Wyoming oil fields by a syndicate of oil men from Sistersville, W. Va. The new refinery is to be located at Greybull, and will be in operation by the coming September.

The Union Oil Company has let a contract for the construction of an 80,000 barrel capacity tank steamer, costing \$1,000,000. It is to be an all steel steamer and will have the greatest capacity of any oil carrier afloat.

The Drumwright Oil and Gas Company, of Phoenix, Arizona, has been incorporated with a capital stock of \$1,000,000. The incorporators are Eugene W. Harris, James W. Duffy, E. T. Stewart and L. T. Lumry.

The Western Union Oil Company's No. 56 gusher which came in recently and which is one of the most sensational producers ever finished in the Santa Maria field, is now doing about 3600 barrels a day.

Every effort is being put forth in the Taft field to find the big sand which made No. 39, the wonder field. For three weeks this well flowed at a rate of 40,000 barrels daily, after which it sanded.

The San Pedro Oil and Development Company, of Phoenix, Arizona, has incorporated with a capital of \$200,000. J. E. McCaully, W. D. Calkins and J. L. McCarthy are the incorporators.

The No. 40 well of the Kern Trading and Oil Company, on section 1, 32-23, three miles from Taft, is slowly working itself in with the appearance of soon being an excellent well. It is flowing about 300 barrels daily with a steady increase.

Turkey Island Oil and Gas Company, of Phoenix, Ariz., has incorporated with a \$2,500,000 capitalization. The incorporators are T. M. Lahan, James E. Bresien, W. C. Tery, George L. Aycock and N. A. Setzer.

The Explorations Holdings Company has leased the entire Jacks ranch containing 75,000 acres in Monterey and San Luis Obispo counties. President E. G. Lewis, of the company, says it is the intention to start one or two test wells shortly.

The greatest depth ever drilled in California oil wells is the American Petroleum Company's No. 1, on the McCumber lease, in the Coyote Hills region. After reaching 5290 feet without success the well has now been abandoned.

The Rice Ranch Oil Company, operating in the Santa Maria field, has increased its monthly dividend from 1 per cent a share to 1 1-2 cents a share. This will bring the monthly disbursements for dividends up to \$4,500.

After the Imperial Valley Development Company and the Black Gold Mining Company officials held a conference it was announced that arrangements have been made for the two companies to unite in putting down a well in the oil field east of Holtville, in the Imperial Valley. Work is to begin immediately.

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The Valley Pipe Line Company has started oil through its pipe line from Coalinga to Martinez. The oil now going through will test the pipes and tanks at the pump stations and will fill the completed tanks at each station. There are eleven pump stations on the line.

The Maricopa-Strawn Oil Company, which will drill a well at the new field of Strawn, Texas, has filed articles of incorporation at Bakersfield, with capital stock of \$100,000. The incorporators are: Charles A. Barnhardt, of Bakersfield; W. J. Barnhardt, C. H. Rogers, Sam Cannon, W. J. Slosson, W. B. Young, Tim Sheehan and L. Roy Evans, all of Maricopa, Cal.

The Coalinga Oil Company has been incorporated with a capital of \$1,000,000. H. A. Wheeley, S. A. Culbers, T. F. Marlens, Stanley J. Fay and P. J. Muller are the incorporators. The principal place of business is in the Hearst Building, San Francisco. The company has been formed to handle the following properties: The De Luxe Oil Company, the Empire Oil Company and the Republic Oil Company.

Shell Leases Refinery.

The Shell Oil Company has taken a six months' lease with privilege of renewal on the American Oriental refinery at Martinez, Cal. This refinery was one of the independent refineries which was compelled to suspend or curtail operations owing to the reduced prices and demand for gasoline.

British Company Holds Lease.

The British Company, which is operating the California Amalgamated lease on section 28, 31-23 in the Midway field, has been given until July 10 to resume active operations in development work, by order of the court. If at that time the company fails to work it must surrender the property to A. G. Wilkes.

Compiles Valuable List.

L. L. Dongdon, whose business is the compilation of industrial and trade lists, has compiled an accurate and complete list of the petroleum operators, producers and refiners of the United States, totaling more than 5000 names. He is now seeking 200 subscriptions to this list, at \$5 each, when he will print it in book form for ready reference. Those interested may learn more of this list by addressing Mr. Longdon at Oxford, Ohio.

Southern Pacific Is Hard Hit.

One of the most important decisions so far as the oil industry of the Pacific Coast is concerned, has been rendered by the Interstate Commerce Commission of the United States, on the application of the Southern Pacific Company and the Associated Oil Company for permission to continue the operation of oil steamers between ports in California, Oregon, Washington, Alaska and the Hawaiian Islands.

As a result of this request an order has been entered by the Commission, under the provisions of the Panama Canal Act, directing the Southern Pacific Company

to discontinue, by July 15, next, its ownership and operation of oil steamers between ports in California, Oregon and Washington. A conditional permission was granted, however, for the Southern Pacific to continue its ownership and operation of oil steamers to Alaskan and other foreign ports.

The decision also covers the fact that no mention is made of pipe line competition with railroads. The Commission also pointed out that a rail carrier does not necessarily have to reach a point in order to compete with water carriers that operate directly to that point, but that rail carriers participation in joint rates may bring about such competition. The despatch from Washington which brings the news says: "The Commission definitely denied the application of the road to continue the operation of its oil steamers to points in Oregon and Washington. It held, on the other hand, that, unless the Southern Pacific Company participates, by its rail lines, or in connection with other lines, in transportation of oil from California points to a port for transshipment to Alaska, the continued ownership and operation of its oil steamers between the California ports and ports of Alaska, is not, and will not be in violation of the Panama Canal Act. Furthermore, the Commission held that the Southern Pacific does not compete with its oil steamers in their operation to the Hawaiian Islands, and it may, therefore, continue this service.

In conclusion, the Commission declared that if the petitioners own any common carrier pipe line which does or may compete with the operations of its boat lines, such ownership and operation comes within the prohibition of the Panama Canal Act.

"The petition," stated the decision, "was signed on behalf of the oil company, but it does not refer to pipe lines, and no relief is asked for any common carrier pipe line that does or may compete with its steamer lines. The record does not disclose the location of the pipe lines referred to, and if the oil company is seeking relief for the continued ownership and operation of pipe lines, in competition with its steamers, there is no indication thereof in the petition, and no opinion is expressed thereon."

Parkfield Property.

A 165-acre tract of prospective oil land in the Parkfield District, Monterey County, is offered for sale by Frank La Vine, 230 W. First St., Los Angeles, Calif. The property is close to drilling operations, and is a first class prospect. The big money comes in the discovery. Particulars furnished on request.

Oil Lands for Sale or Lease !

Tide-water, Santa Barbara County

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Smelting With Crude Petroleum

In the June issue of **CALIFORNIA DERRICK**, was published an inadequate and imperfect report of the discovery of a method of smelting ores with crude oil. Through the kindness of Mr. Allan Bruce Marquand the **DERRICK** is able to give in full the thesis with full explanation of the process. This process has gone beyond a laboratory experiment and there is now under course of construction a unit of a smelter for the purpose of carrying forward the process commercially.

This smelter is being erected in San Francisco, and is sufficiently financed to have the commercial experiment, if it can be called an experiment, carried to successful conclusion. The unit now being erected will care for all the ore of one mine. In the following article complete details of the method are given with results of experiments carried out both at the University of California and at the Heroult smelter, in Shasta County.

BY ALLAN BRUCE MARQUAND

The investigations recorded in the following thesis apply principally to a general problem in metallurgy, namely the elimination of sulphur dioxide and the control of flue dust in the smelting of base metal ores; but they also include the examination of a new furnace by which it is hoped this problem is to be solved, to determine its adaptability for this and other purposes as will appear later.

The two products of the present day smelter, sulphur dioxide and flue dust, have of late excited wide attention chiefly because of their deleterious effect upon vegetation and cattle in the vicinity of reduction plants and also because their production causes considerable loss to the operators themselves. Various plans have been suggested to control the flue dust losses and of these the "bag houses" seem to have met with the greatest success although even this installation presents many objectionable features; but as yet no one has succeeded in eliminating the sulphur dioxide fumes.

Process

The process used in this series of experiments was suggested by J. Heslewood and his son Wm. Heslewood the inventors, and the general arrangements of a plant to be erected is shown in the illustration herewith. Extended investigations with a somewhat similar furnace were carried on at Herault, California, and a brief description of the methods of operation and results obtained follows:

The ore is both desulphurized and smelted in one double compartment shaft furnace so arranged that after desulphurization has been carried to the desired point in the upper compartment the ore is dropped to the lower compartment and there smelted. Crude oil fuel is used for the double purpose of supplying heat

and an important chemical reagent—hydrogen. Steam is admitted to both compartments to control the temperature in the desulphurizing zone and to furnish hydrogen and oxygen in both zones. The resulting furnace atmosphere is decidedly reducing; its nature being determined by the relative amounts of oil, steam and air admitted. The product passing from the desulphurizing into the smelting zone ranges from 6 per cent to 8 per cent sulphur.

The smelted products are slag to be rejected and a matte to be later converted. The passage of gases through the charge is due to a vacuum draught generated by a water-jet pump consisting of a centrifugal pump discharging through an especially designed vacuum chamber into a tank as shown in the illustration. Here all solid particles and substances which are condensed at this temperature are precipitated as the gases rise through the water. This solid material will be largely sulphur and unburned carbon while the true gaseous products consist chiefly of carbon dioxide, some carbon monoxide, a perceptible percentage of hydrogen sulphide, a trace of sulphur dioxide and a small amount of sulphur carbon compounds, such as carbon di-sulphide.

The experimental observations upon which the foregoing statements are based follow with the chemical reactions which seem to most nearly explain them.

Preliminary Experiments

The first experiment was performed for the purpose of determining approximately to what degree hydrogen sulphide and sulphur dioxide united at various temperatures to give sulphur and water.

Hydrogen sulphide was generated by the action of hydrochloric acid on ferrous sulphide in a flask having three stopcocks; one leading to the atmosphere; one

for the admission of acid and one in the tube passing into the combustion chamber, the latter being the only outlet open while the experiment was running. This gas was passed up through a large bottle containing wet, broken brick to remove any free sulphur which might be present.

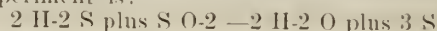
Sulphur Dioxide was generated in a similar flask by the action of hot, concentrated sulphuric acid upon metallic copper.

Both gases were dried through calcium chloride tubes, since water was looked for as an end product, and then led through a porcelain tube, referred to as the combustion chamber, one inch in diameter which was heated by a series of bunsen burners. This combustion chamber was cemented with plaster of paris to a water jacketed condensing tube through which the gases passed into the atmosphere after the possible precipitation of their content had been accomplished.

The results obtained were all that could be desired. Precipitation of sulphur and water started while the gases were at a comparatively low temperature, approximately 300 deg. C., and increased in amount until at a dull red heat, water was dripping from the end of the condenser and a thick shell of elastic, amorphous sulphur had formed within. At this point during the first trial the amount of sulphur diox-

ide escaping had been very considerably reduced and the hydrogen sulphide had been practically eliminated, only a very faint trace being obtainable with lead acetate. It was evident, however, throughout this experiment that an excess of sulphur dioxide was being generated. But a later run reversed these conditions and the sulphur dioxide was so reduced that the gases could be inhaled with no serious discomfort. Nethyl orange however, in a faintly alkaline solution, gradually changed color when subjected to the gases, indicating the presence of some small percentage of sulphur dioxide.

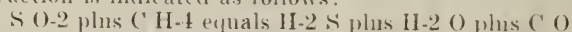
The equation representing the reaction occurring in this experiment is:



A theoretical confirmation of the possibility of this reaction can be obtained by comparing the heats of formation on each side of the equation.

This experiment indicates that it is possible to reduce sulphur dioxide to free sulphur with hydrogen sulphide, and the method of supplying this reagent was the next point investigated.

Various possibilities present themselves. For example, assuming crude oil to be used as fuel, we have present a variety of hydrocarbons of which methane, C H-4 , may be taken as a type, and a very probable reaction is indicated as follows:

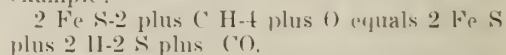


Comparing the heats of formation, we get:

60,260 plus 22,250 equals 91,510 gram calories required, as against 4,800 plus 58,060 plus 28,160 equals 92,020 gram calories produced.

The reduction of sulphur dioxide by means of hydrocarbon gases has been accomplished by other investigators, among whom might be mentioned Dr. Gotchalt of the United States Bureau of Mines.

Another possibility is that the methane and metallic sulphide in the presence of only enough oxygen to burn the carbon in the methane, may give results directly, as for example:

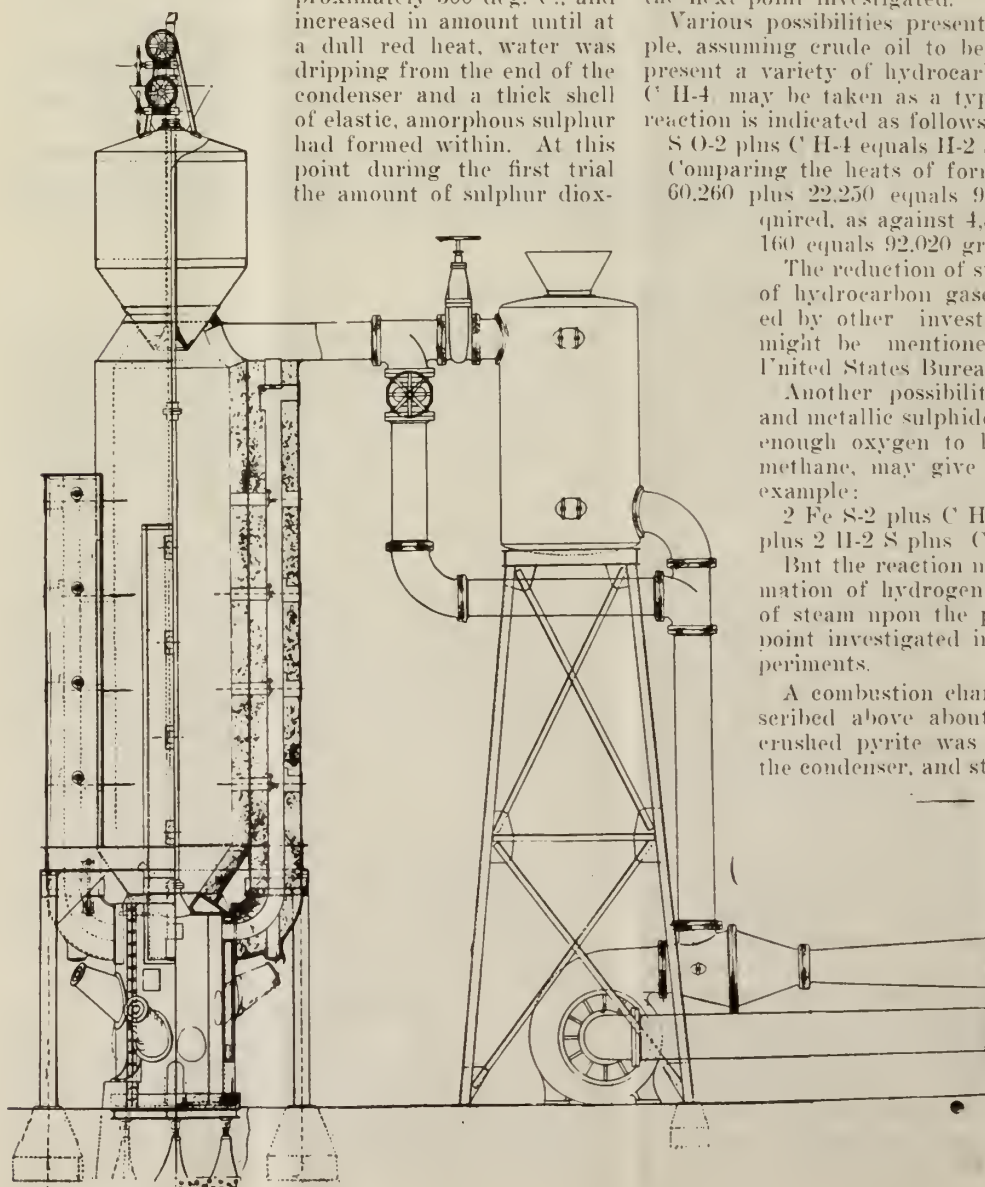


But the reaction most desired was the formation of hydrogen sulphide by the action of steam upon the pyrite and this was the point investigated in the next series of experiments.

A combustion chamber similar to that described above about one-half filled with crushed pyrite was connected as before to the condenser, and steam under three pounds

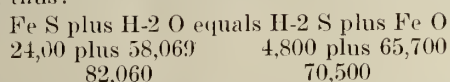
pressure was led in through an eighth inch pipe.

The temperature was raised to an incipient red and held there for half an hour. A very notable volume of hydrogen sulphide was given off and some sulphur was precipitated but no sulphur dioxide could be detected. These results apparently contradict those obtained by the

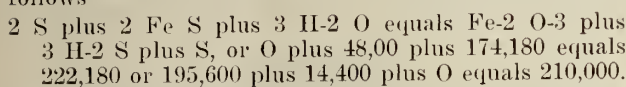


Bureau of Mines is somewhat similar experiments for here it is claimed sulphur dioxide was an end product. Differences in temperature and amount of steam used may account for the discrepancy noted. Upon examination of the remaining mineral it was evident that most of it which had been exposed to direct contact with the steam had been changed to the hydrous oxide of iron. 2 Fe-2 O-3. 3 H-2 O, indicated by a yellow stain. The remainder was left untouched or as a black sulphide, probably Fe S or Fe-x S (x plus 1).

A second run on pyrite at a dull red heat gave a much larger volume of hydrogen sulphide and considerably more sulphur, due no doubt, to the distillation of the first atom. Very satisfactory results were obtained with commercial ferrous sulphide, Fe S, although a simple equation, denoting the reaction, shows a consumption of heat on comparing the heats of formation, thus:



An equation showing the reaction with pyrite from which the free sulphur has been distilled might be as follows



This also is a heat consuming reaction but because of the large excess of steam used, the rapid removal of hydrogen sulphide and the plentiful supply of heat the reaction went forward at a rapid rate.

All the possibilities considered and the results obtained from the foregoing experiments indicated that an experimental furnace was a necessity for further study.

The mechanical details of its construction were made as nearly identical with those of the plant shown as was possible with the material at hand. To obviate the necessity for two compartments, it was decided to build only one and to use it intermittently for roasting and smelting.

The furnace shell consisted of a six foot section of thirty-six inch water pipe and this was cut for flue, tuyeres, tap-notch and pyrometer pipes and lined with seven inches of fire brick, which left a twenty-two inch opening for the ore.

The vacuum chamber was designed to draw one-hundred fifty cubic feet of air through the furnace per minute and to create this draft a six inch Byron Jackson Centrifugal Pump, rated at one-thousand one hundred twenty-five gallons per minute, was directly connected to a thirty horsepower Wagner motor. This pump required, theoretically, only nineteen horsepower, but to allow for all possible contingencies, thirty horsepower was considered to be none too much.

The flue from the furnace to the vacuum chamber was of five inch pipe in which a gate valve was placed to control the amount of air passing through the charge. This was water-cooled by a sprinkler above and the waste water was carried through the vacuum chamber to the tank. Below the gate a vacuum gauge was placed and this registered from zero centimeters, when the gate was open and no ore was in the furnace, to seventy-six centimeters, when the gate was closed.

The water tank was cylindrical and fitted with a partition between the openings to and from the pump. This partition came to within two inches of the water surface and served to prevent the return of water carrying gas bubbles to the pumps. A cover, tightly caulked, was put on the tank and bored to admit a six inch

flue leading out of the building. Gas samples were taken from the top of the tank through small holes.

Furnace Adjustments

Preliminary runs were made as soon as the plant was complete, to determine the grade and amount of oil required, volume of steam to be admitted, temperature most desired and the possible range of temperatures.

These runs showed that a light grade of fuel oil was necessary because of the small burners used and about fifteen gallons were consumed per hour. Two three-quarter inch pipes carrying steam under four pounds pressure gave very good results, but it was found necessary to keep the ore about two feet above the tuyeres and to use only one burner to keep the temperature below the melting point of the ore. The ore was held up by filling the furnace to this level with crushed limestone or magnesite. Between nine-hundred and nine-hundred-fifty degrees centigrade proved to be the most desirable temperature and this was maintained during the latter part of our later runs.

Method of Obtaining Data

It is obvious that if the results were to be of value, fairly accurate observations were essential and the nature of these is as follows:

The per cent of sulphur in the ore was known and an analysis for sulphur was run on several samples taken after the run. The gas escaping from the tank was frequently sampled and tested for sulphur dioxide by measuring the amount of gas required to discolor an iodine solution of known strength. This is the usual method and is given in full in Dennis' "Gas Analysis," but is only accurate where hydrogen sulphide is lacking, for this gas will also discolor the solution.

When both these gases were allowed to pass through the solution, although the odor of hydrogen sulphide was noticeable, and the percentage of sulphur dioxide was calculated on the basis of the volume of gas passed through, this percentage was so low as to make a distinction between the two gases superfluous.

To return to the observations recorded:

During any of the runs, other notes made apply to the following: time of observations, temperature of furnace as recorded by a chrome-nickel pyrometer reading to 1300 deg. C., vacuum on the furnace nozzle water pressure, steam used, etc.,

The following data applies to the first trial giving good results.

April 22, 1915.

Charge—250 pounds sulphide ore averaging 46 per cent sulphur.

Air pressure—41 pounds; steam pressure 4 pounds. Temperature readings obtained at a point 2 feet above the bottom of the ore. Ore column 14 feet high, bottom 2 inches above the tuyeres.

Started furnace 9:27 a. m. T equals 20 deg. C.

The temperature was below 700 deg, about a third of the running time. The next third it was between 700 deg. and 800 deg. The highest temperature at the end of the run was 870 deg.

Total time 4 hours 23 minutes. Stops 29 minutes. Running time 3 hours 54 minutes. Oil used 60 gallons.

Gas Tests

Time	Temperature Centigrade	Per cent Sulphur dioxide	Remarks on Hydrogen Sulphide
10:16	380 deg.	.....	Trace with lead acetate
10:30	630 deg.	.....	Trace with lead acetate
10:52	700 deg.	0.18	Rapid discoloration of lead acetate.
11:13	695 deg.	0.12	Same
11:35	675 deg.	0.20	Same
1:45	860 deg.	0.20	Same

Sulphur in Calclnes:

No. 1.—Picked pieces, blackened, showing core of sulphides. Content 20.9 per cent sulphur.
 No. 2. Sample taken from close to the bottom of the ore column. Content 5.97 per cent sulphur.
 No. 3. Same as No. 2. Content 4.1 per cent sulphur.

The furnace filler in this case was limestone and this was completely calcined, slacking violently when thrown into water.

Before the next run, the small fifteen gallon oil tank was replaced by a one-hundred-ten gallon drum in order to avoid the hourly stops for oil.

Tabulated observations taken during this run follow:

April 24, 1915. . .

Charge and general starting conditions were the same as in the previous run. Started furnace at 1:30 p. m.

Time	Temperature Centigrade.	Vacuum Cm. Hg.	Water Pressure. Lbs. per sq. inch.
1:55	260 deg.	9	32
2:05	400 deg.	9	32
2:15	500 deg.	9	32
2:25	575 deg.	9	32
Started to add steam—gradually increased amount.			
2:35	560 deg.	9	32
2:45	600 deg.	9	32
Adjusted draft and oil to increase the temperature.			
2:55	700 deg.	25	30
3:05	850 deg.	20	30
3:15	925 deg.	30	29
Maximum steam supply on.			
3:25	965 deg.	31	29
Reduced the temperature.			
3:35	920 deg.	47	28
3:45	925 deg.	37	29
3:55	925 deg.	37	29
4:05	920 deg.	37	29
4:15	900 deg.	37	29
4:25	905 deg.	37	29
4:35	900 deg.	37	29
4:45	905 deg.	37	29
4:55	890 deg.	37	29
5:05	910 deg.	37	29
5:15	900 deg.	37	31
5:25	890 deg.	12	31
5:35	890 deg.	12	31
5:45	900 deg.	12	31
5:55	880 deg.	12	31
Total time, 4 hours 25 minutes.			
No stops.			
Oil used—50 gallons.			

Gas Tests.

Time	Temperature Centigrade	Per cent sulphur dioxide	Remarks on Hydrogen Sulphide
2:31	570 deg.	.....	Good test
2:54	700 deg.	0.21	Strong test
3:26	965 deg.	0.12	Strong test
5:30	890 deg.	0.14	Strong test

The calclnes obtained from this run, with the exceptions of a few pieces near the brick work at the top, were perfect in appearance and analysis showed the sulphur content to have been reduced to from 3.9 per cent to 5 per cent.

During all the runs made a thick, black precipitate was caught in the water tank consisting, for the most part, of unburned carbon and metallic sulphur. When dried, this burned readily with the sulphur flame, giving off quantities of sulphur dioxide.

An analysis made on similar material brought from Herault after the experiment made there showed:

Sulphur 61.52 per cent; Silicia, 4.94 per cent; Ferrie oxide, 15.12 per cent; Copper, trace; Carbon, 20.0 per cent plus or minus.

The recovery of pure sulphur from this precipitate is a simple matter and requires no comment here.

Smelting

During the preliminary runs such evidence of high temperature obtainable in the zone of fusion were noted as to make a special smelting run on the calclnes unnecessary. In these runs fire clay, sulphide ore and lime were fused rapidly and as already stated it was only by cutting out one burner and the use of magnesite filling that a roasting temperature could be obtained in the space available.

Commercial Possibilities of the Process Applied to Sulphide Ores

Considering the results obtained, with the possibility of commercial success for the process in view, it is a fact that no difficulties were encountered or suggested which were not easily overcome and that the desired results were satisfactorily accomplished. Furnace conditions were easy to maintain and necessary adjustments throughout the operations were few, all being simple and involving no delay. All observations made seem to justify the development of the process on a larger scale and no doubt, this action will be taken in the near future.

The complete plant herein described was designated for one special type of ore, but it was obvious that the basic principle embracing the vacuum draught and the perfect washing of the flue products resulting from this feature, might well be applied to the reduction of other ores requiring either roasting or smelting alone.

The time available for further investigation permitted of only two more complete runs, one of these being on mercury ore from the New Almaden Mines and the other being a run on an extremely rich reverberatory slag sent by Mr. Finn from his reduction plant in San Francisco.

Mercury Ore

The charge consisted of 550 pounds of mercury ore, assaying 0.9 per cent mercury, crushed to pass a 2 inch ring. The run lasted for only two hours for at the end of this period it was found that about one-half the charge had melted and fused with the fire brick nearest the tuyeres. The ore above this molten material showed a perfect roast, not a trace of mercury being in evidence.

The small amount of metallic mercury produced was practically lost in the sediment covering the bottom of the tank left from former runs, but the discovery of small globules of the metal proved its presence and the establishing of this fact was all that was to be hoped for in this run. Lack of ore prevented other runs for mercury, but the results obtained undoubtedly justify further investigation for the water tank used in this process is an important innovation in the roasting of mercury ores.

Run on Reverberatory Slag

This final run was of considerable importance because it was made upon a material which the reverberatory furnace at the Finn Metal Works was unable to treat further.

A complete analysis of this slag to determine the proper fluxing materials, required more time than could be allowed for this purpose. It was evident from its physical appearance, however, that fluxing was necessary so several samples were mixed with different fluxes, iron oxide, calcium carbonate or silicia, and fused; the best slag being obtained from the silicia charge.

The furnace charge was made up of 758 pounds of slag and 200 pounds of silicia. The ore averaged 50 per cent lead plus antimony, but this percentage is probably high for large shots of the metal might easily have found their way into the sample.

The furnace was heated for one hour by a wood fire and a few pieces of coke were placed in the bottom to keep it warm, for the metal and slag had to be run out practically as fast as formed owing to the absence of a lead well.

Fifteen minutes after the furnace was charged, molt-

en bullion made its appearance under the fire clay tap-plug and this marked the first tap. The total weight of metal finally recovered was 138 pounds.

The frequency with which the furnace required tapping, so cooled the area adjacent to the tap notch as to cause a sheet of solidified slag to form, which blocked the opening. This necessitated bringing a burner around to this point, and by this means the whole charge was easily run out.

Conclusion

In concluding this thesis it may be stated that both roasting and smelting can be carried on successfully using crude oil as fuel and generating the draught by means of a water jet. Each kind of ore requires special furnace design for perfect results, but the general principle of the process used, as evidenced by the foregoing experiments, is worthy of serious consideration in the field of metallurgy.

Southern Pacific Loses Kern Oil Lands

The long contention between the United States and the Southern Pacific Company over oil lands in the Kern district will now, in all probability, go to the United States Supreme Court for the last analysis and decision.

United States District Judge Robert S. Bean, of Portland, Ore., who was called to Los Angeles to sit on the case, has given his opinion and decision regarding the patents issued for land in what is known as the Elk Hills district, Kern Country, Cal. He sustained the contention of the government and ordered the cancellation of the patents to 6400 acres of land estimated to be worth not less than \$10,000,000.

This action, the history of which is well known to California oil men, was brought to regain title for the government to ten sections of land in the McKittrick district, patented to the Southern Pacific Company under act of Congress, July 27, 1866, granting lands in aid of construction of the road, mineral lands, excepting iron and coal, being excepted from the provisions of the grant.

The government complaint charged that the affidavit filed for patent was false and that the lands were known to be oil bearing at the time of the proceedings resulting in the patent, and were procured in pursuance of a fraudulent scheme to acquire mineral land under an agricultural grant.

The court is rather bald in its opinion, and frankly states that there is evidence of intentional fraud. The court finds:

1. That the lands in controversy were at the time of the proceedings resulting in the patent, within a known, well-recognized oil district, and had been previously returned by United States survey as oil lands.

2. That they are rough, broken up lands, of no value for agricultural purposes or any other purpose than oil contents.

3. That the statement of Charles Eberlein that he caused the lands to be carefully examined by agents and employees of the company as to their mineral or agricultural character was and is untrue.

4. That it clearly appears from the documentary evidence and from the Eberlein files that at the time the selections were made and the patents issued, officers of the company in charge of the matter were conscious that the lands were, if not actual, at least probable, oil bearing, and that the selections were made and strenuously urged to patent for that reason and not for their agricultural value.

The court says that the only question of doubt is whether the evidence is sufficient to show that the patents should be set aside because in fact the lands were known as oil lands at the time of the proceedings resulting in the issuance of the patents. At that time there had been no actual discovery of oil within the lands in

question, but the judge declares that this was not necessary as oil, like coal, occurs in stratified forms of deposit, and lands may and often do become valuable for oil through adjacent disclosures and other surrounding conditions. The judge goes on to say:

From a careful examination of the evidence I have come to the conclusion that the topographical and structural formation and character of the land and the surrounding area, their proximity to and the known extent of oil development and oil sands to the south and west, and extending out toward these lands in question, the seepages on or near the land, the geological structure thereof and the known surrounding conditions are clearly such as to engender the belief that the land contained mineral (oil) deposits of such quality and quantity as would render their extraction profitable and justify expenditure to that end. The plaintiff is entitled to the relief demanded.

Another suit involving oil lands in the same area, and valued at \$320,000,000, is pending in the United States District Court, before Judge Benjamin F. Bledsoe, who recently denied the motion of the railroad company to dismiss the action on the ground of the statute of limitations.

Southern Pacific Files Answer.

The Southern Pacific Company has filed its answer to the first of six suits brought by the United States government to cancel titles the railroad holds to some 152,000 acres of alleged oil lands in Kern, Fresno and Kings counties, California, said to be worth \$320,000,000.

According to the allegation of the government the railroad company obtained patent to these lands through fraud in 1892, 1894 and 1896 by concealing from the land office officials the fact that these lands contained known and valuable deposits of oil and other minerals.

The answer filed on June 30, covers 45,000 acres of land near the Coalinga oil district in Fresno country, patent to which was given in 1894. The answer denies charges of fraud in every particular, and asserts that it was neither known nor believed by any official of the railroad company, or by any one else until six years after the patents were obtained, that petroleum could be found in the lands. The answer admits that since that time petroleum has been found in small portions of the lands, but it denies that there are any other minerals in the lands. It alleges that the first knowledge that there was oil in these lands came to the company in 1900 through discoveries made by others, and that prior to that time the railroad company offered these lands for sale to any person who desired to purchase at \$2.50 an acre, and did, in fact, sell a very large acreage of what has since proved to be valuable oil land.

Smelting of iron, copper and lead with crude oil will revolutionize productive conditions in California. Immense ore bodies in several parts of the state are simply waiting for something like this. Read the thesis of Mr. Marquand and see how close we are to it.

Petroleum at the Exposition

The extent of the world's dependence on petroleum and its products is displayed in the most striking manner in hundreds of exhibits at the Panama-Pacific International Exposition.

If there is any commodity or product truly of international importance, it is oil—and this fact is shown over and over again in the various exhibits throughout the length and breadth of the most beautiful and practical exposition yet created.

Two great California oil companies have comprehensive exhibits at the Exposition, showing the development of the California oil business from the work of the field geologist to the means of distribution of the products refined from the various grades of crude oils produced in the State's different oil regions. The two companies exhibiting the development of the California oil industry are, naturally, the State's strongest oil corporations, the "Standard Oil Company of California" and the "Union Oil Company of California." The housing spaces of their exhibits adjoin each other in the Palace of Mines and Metallurgy and the crowds of people flocking from one exhibit to the other prove both the general interest in the oil industry and the excellence of the respective displays. As these exhibits stand alone in their idea of carrying the public interest in oil through the successive stages of development from prospecting work to the ultimate products upon which the world today is so dependent, each company has willing attendants who explain to the visitors the charts, terms, machinery, classes of oil and their especial adaptations and everything that interests either the "outsider" or the expert.

The Standard Oil Company's exhibit shows the oil industry in miniature and very much in detail, especially as regards methods of production. Oil field scenes are pictured in tanks that display typical oilfield country, with pumping and flowing wells beneath blackened derricks, tanks, pipe lines and oilfield workers' homes, reproduced on a very small scale. The importance of geology to the field work is displayed by excellent exhibits, one, a reproduction of a square mile in the famous Midway oilfield, showing the various strata down to and below oil sands. The celebrated "Starks" gas-trap, which saves every drop of oil and every cubic inch of gas produced with it, in wells of immense output, and separates the two products as well, is shown in miniature, as are also a section of a well displaying the different sizes of pipe or "casing" used in drilling; a giant gate-valve to shut off the flow of great wells; a pipe line system; delivery system; correct lubrication; charts showing ups and down of California oil production since its inception, and, of course, all the products turned out of the Company's different refineries. A section of road work is shown, displaying the use of California oil asphalt, which makes the best roads in the world; all the streets in the Exposition grounds are paved with oil asphalt.

The main exhibit of the Union Oil Company, opposite the Standard's exhibit in the Palace of Mines, is very different from the latter, being more general in character and consisting mostly of "scenery." The Company's description cannot be bettered—"a cycloramic representation of typical California's oilfield country." The cyclorama represents one field, but characteristics are introduced of both the valley and the coast fields as they appear during the rainless summers. The scene shows the oilfields with their wells and

derricks, tanks and pumping plants, with a typical oil-field town and a refinery located on tidewater, with its wharves and docks. One of the great gushers of the San Joaquin Valley fields is represented in action with its derrick reflected in a lake of oil of its own production. The exhibit is housed in a building of massive appearance, in front of which rises four dinosaurs, representatives of a great family of giant reptiles which flourished in early Cretaceous times. These dinosaurs are faithful representations based on the best known reconstructions by eminent authorities from actual existing fossils. Around the building is carried a frieze of related reptiles of the same order. In addition to the cycloramic views of oilfield scenes the Union shows a great many of its products in glass jars, giving the uses of each for commercial purposes, and a very fine collection of fossils of unusual interest to geologists.

The majority of exhibits showing the world's dependence on petroleum are housed in four great Palaces; Machinery Hall, Palace of Mines and Metallurgy; Palace of Transportation and Palace of Agriculture.

In Machinery Hall are to be seen engines operating on California fuel oil, gasoline engines, both marine and stationary and others operating on kerosene and distillate. The Diessel-type engines have proved of wonderful interest to the visiting crowds, especially the great Busch-Sulzer engine which has been operating constantly since the opening day. The engine is set in the most beautiful surroundings, with white-petalled flowers in boxes at its base. The attendants dress in white to show the remarkable cleanliness of the engine.

Correct lubrication of large gasoline engines is shown by the Standard Oil Company in an unique manner in a "Union" gas engine which has been so arranged that the whole operation of the engine is visible through the glass "windows" to the engine's vitals, which electric lights illuminate.

A marine Diessel is on display by the "New London Ship and Engine Company." It is not very large as compared with the big stationary crude oil engines, but as this type of engine is showing to excellent advantage in freight vessels, it excites a great deal of interest.

Machinery Hall is filled with oil machinery exhibits; ranges using crude oil (in almost exclusive use in Pacific Coast bakeries); marine and stationary steam boilers fitted with oil burners; tubing for oil wells, drilling ropes and cables, rotary and standard bits and complete drilling outfits such as are used by the prospector; the various makes of gasoline, to bring the gas mantle to homes far distant from either gas or electricity; asphalt paving machinery and, in the U. S. Government's display, models of oil burning battleships, torpedo-boat destroyers and other consumers of crude oil.

The Palace of Mines and Metallurgy has in addition to the two oil exhibits already mentioned, those of the Union Oil Company of California and the Standard Oil Company of California, an exhibit by the Argentine Republic showing Argentine's known oil and gas regions; an exhibit by the U. S. Steel Corporation showing its steel derricks and tubing for well drilling; a shale-oil exhibit by the U. S. Geological Survey which suggests the development of this country's huge oil-shale deposits, and, a glass-bottle exhibit among New York's minerals, showing samples of crude and refined oils produced in Wellsville.

Argentine's exhibit has attracted a great deal of attention, because of the importance of the Argentine oil-

fields. The exhibit consists of jars of the different grades of oil, maps and charts showing the petroleum, gas and asphaltum deposits, photographs of the various districts and geological data of interest to oil developers. Argentine's oil deposits are scattered over an immense area extending from the Comodoro Rivadavia fields on the Coast, to the northern portion of the Province of Mendoza. Many illustrations of gushers and development work form a part of this exhibit.

In the Palace of Transportation fully one half of the floor space is devoted to an industry that has flourished and is possible only because of the development of America's wonderful oil resources—the motor car industry. The greatest and best automobile companies in the United States have magnificent exhibits of their latest models. Owing to the war, motor car manufacturers of the warring nations are almost unrepresented; the foreign cars are all in service, but there is one British and one Italian car on exhibition.

It is not only the motor-vehicle in the Palace of Transportation that brings home the dependence of modern days upon oil; the gigantic "Mallet"-type locomotives exhibited by the Southern Pacific Company, engines which haul tremendous freight loads over the mountains, barriers between California and the East, would be impossible were it not for fuel oil. Alongside of the same company's engine of early days—1863—the diminutive "Collis P. Huntington" (engines were named in those days instead of numbered), the wonderful march of transportation progress is apparent.

To what an extent oil enters into agriculture is shown by the International Harvester Company's exhibit of their farm machinery, in the Palace of Agriculture. They have on display twenty-five different classes of engines for the use of the modern farmer. Many of these engines operate on kerosene and distillate, others on gasoline. Some operate on oil as low as 38 degrees gravity. How oil has stepped into the horse's place on the farm is apparent from a glance at this amazing display of modern agricultural machinery. Today the ground is plowed by machinery pulled by an oil-driven tractor. When harvesting time comes around, the same engine pulls the modern reaper through the field, the reaper cutting off and threshing the heads of the standing grain, leaving the stalks to stand until turned in to enrich the soil, or until burned. In the dairy the gas engine furnishes power to milk the cows, separate the milk and churn the cream into butter, while an automobile takes the product to market. This is modern farming as shown not only at the International Harvester Exhibit, but by the exhibits of other farm machinery manufacturers as well. All tell the tale of the growing dependence of the farm upon petroleum; and how the farmer listens to it!

Aside from Argentine's exhibit, all the foreign oil exhibits are of a very limited character. Canada shows oils derived from the shales of New Brunswick and specimens of the crudes and refined oils from the Ontario fields. Bolivia has on display in the Bolivian Building a few bottles of crudes from the State of Santa Cruz. Sweden has different grades of tar, but no mineral oils on exhibition. The size of the foreign oil exhibits is about in relation to their importance to the various countries. The greatest oil fields are, of course, in the United States, and it is due to this fact that the use of machinery, utilizing oil products for power has shown its greatest development in this country.

Export trade in crude oil shows enormous gains. If this keeps up there is hope yet for the small producer.

Hughes Patent Eccentric Reamer.

This invention relates to reamers such as are used in the operation of drilling a well for reaming out or increasing the diameter of a hole that has become crooked or smaller than the required diameter, due to caking of the drill or dulling of the cutters on the drill.

One object of this invention is to provide an efficient reamer that comprises a plurality of rotatable cutters which act on the side walls of the hole and increases the diameter of same progressively as the reamer descends into the hole.

Another object is to provide a serviceable reamer that comprises only a few rugged parts which are strong and rigid enough to successfully withstand the strains to which they are subjected when the reamer is being used in a hard rocky formation.

And still another object is to provide a reamer that is a separate and distinct tool from the drill or bit used in the operation of drilling a well and which is equipped with horizontally-disposed cutters that act only on the side of the hole.

Briefly described, this reamer consists of a number of horizontally disposed rotatable cutters, arranged one above the other, in different horizontal planes, and mounted on a vertically disposed spindle. The diameter of these cutters is much less than the diameter of the hole that is to be reamed, which is made possible by the eccentric bushings on which they are mounted. The upper and lower cutters are mounted in relation to the middle cutter to bear against the side of the hole at a point diametrically opposite the point where the middle cutter bears against the side of the hole which prevents wobbling—the upper and lower cutters overcome the thrust from the middle cutter and vice versa. The reamer may be used on the bottom of drill stem or inserted in the drill stem at any point above the bottom to straighten the hole or cut away any projections. This reamer is recommended for running before setting casing, which insures that the casing will go to the bottom freely. This reamer is also equipped with the famous S-H Lubricating System, used on all the drill bits manufactured by the Hughes Tool Company.

Texas Oil Developments.

It is reported that plans are well advanced for the construction of a small refinery at Thrall, Texas, and it is also said that a small refinery is contemplated by one of the big companies at Taylor, Texas. Development and construction operations are now being carried forward on a settled and substantial basis in the Thrall field, about 35 miles north of Austin. At the end of the fourth month's existence of the new field there are sixty producing wells, all located within the limits of the proven field.

Many dry holes have been bored in the immediate locality of the producing territory, and more than 200 rigs are now at work putting down wildcat holes in the region of fifty miles around the discovery well near Thrall. The total production of the sixty wells in the Thrall field is about 12,000 barrels a day. The original gushers have ceased to flow and pumping outfits have been put on most of the wells.

Standard Buys Distillery Stock.

It is reported on what seems good authority that the recent sale of a majority of the 35,000 shares of common stock of the United States Industrial Alcohol Company, at New York, for more than \$2,500,000 was to representatives of the Standard Oil Company.

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Those Oil Lands Suits.

In the present interest in the oil land suits instituted by the government against the Southern Pacific Company it is well to remember several things that are directly connected with the cases. First is that there are two kinds of cases under adjudication. The decision rendered by United States District Judge Robert S. Bean, by which he has ordered the cancellation of patents to \$10,000,000 worth of land in the McKittrick district, is a case where it is alleged that fraud was committed some half a century ago by certain employees

and officials of the Southern Pacific Company. It is because of this alleged fraud that the patents have been ordered cancelled and the lands restored to entry.

As to the merits of that contention it is probable that the last court of resort will be appealed to before the case is settled definitely.

In the case before Judge Bledsoe, who recently denied the motion to dismiss six suits on the ground of the intervention of the statute of limitation, there is no allegation of fraud, but it is claimed on part of the government that the president of the United States has the right to set aside a patent issued under Act of Congress. In this case two United States District Judges held that the Southern Pacific Company was in the right and that the withdrawal of these patents by the president of the United States was void. In this judgment they were upheld by three justices of the Supreme Court of the United States.

But there are other justices of the Supreme Court, and four against three is always recognized as the winning odds. Four justices held that the president was right. It would appear in this instance that a case involving some \$320,000,000 worth of land, is not decided on its merits, or on either law or justice, but on a majority count of the members of the last tribunal.

Better Times Ahead.

Viewed in the light of recent events we may reasonably expect a betterment of the oil situation, especially in California.

There has been a marked increase all along the line in the oil business of the country, and export demand is steadily increasing. It is reported from the East that orders of such magnitude are at hand for all kinds of products that it will take the refineries several years to carry out the requirements of new business.

The Standard Oil plant at Bayonne, New Jersey is overpowered with rush orders and for some time past has been working overtime. A prominent Standard Oil Official in New York is quoted as saying:

"I cannot see why the people in the oil business should be anything but optimistic, and I cannot see that the stockholders of the Standard Oil Company have much room for complaint. The export business leaves much yet to be desired, but the situation in the producing end would indicate that the bottom had been reached. On the whole I feel that it is bound to come and will come to abide with us a while when it does arrive."

That, certainly, is optimistic, and it but voices the sentiment of all who have studied the situation. Exports are increasing steadily, and those to France and England are now on a most extensive scale. This is especially true of gasoline, and gas and fuel oil.

There has been a wonderful increase of from 40 to 70 per cent of run during recent months.

There is a vast amount of oil above ground in California, but indications are that a demand will soon come that will practically exhaust this supply and set all the wells that have been closed down, to producing again.

Taking everything into consideration it looks as if the dark days have passed and the dawn of better times is at hand.

It looks very much as if General Petroleum did not need English capital after all. There is nothing like concerted action to bring out values, both of men and properties.

Gasoline Versus Gunpowder.

Never has there been such a war as the one at present costing Europe something like \$10,000,000 a day, in cold hard cash to say nothing about the human element that is being destroyed. The reason why there has never before been such a war is because there has never before been an equal ability for rapid transportation of troops from one scene of action to another.

It is really a war of gasoline versus gunpowder, and if one of the factors of this great conflict were deprived of gasoline that factor would be eliminated regardless of what amount of gunpowder it might possess. The motor truck has revolutionized warfare, and this war marks the beginning of automobile warfare. Trains of motor trucks are behind every army, hurrying food for men and food for cannon to the front, and then when a weakness is shown in any part of that line of three hundred miles of fighting men, motor trucks are literally hurled to the breach, filled with more fighting men to replace those put out of commission.

Germany pouring across Belgium in almost countless hordes was made possible only because these hordes were accompanied by motor trucks carrying provisions, ammunition, bake shops, kitchens, supplies, arms and even the great 41 centimeter guns which wrought such devastation when trained against what were supposed to be impregnable forts.

It is a war on wheels. When Von Kluck was heard knocking at the gates of Paris his entry was made impossible because Gallieni rushed 70,000 men thirty miles in six hours. The amazing mobility of the Kaiser's forces against the Russians in Galicia was made possible by 30,000 motor trucks. Every thirty days since the beginning of the European war more motor trucks have been exported than were exported during the whole of 1913. These exports amount to \$3,000,000 every thirty days.

So great is the power brought by the use of gasoline that one eminent British staff officer is on record as saying:

"A nation which had exclusively the secret of the internal combustion engine would conquer the world. Under present circumstances the nation which could corner the gasoline supply would be the dominant military power. The automobile, without question, has been the most dominant factor in modern warfare."

Might there not be a lesson here for the United States? When the Hobsons and similar Jingoists shout loudly for warlike preparation for ultimate defense against the successful nation in the present war, it might be well to be able to answer that the United States can corner the gasoline supply, and become the dominant military power of the world.

All the cry about our unpreparedness to resist invasion comes to naught in the light of the motor lamp. Let any part of our coast be threatened by an invading army and we could rush thousands to the threatened point in a few hours. With the vast army of automobiles now in the United States, and with command of the gasoline supply, men for defense could be thrown to any point while a landing party was getting the boats ready in their davits.

An Associated Press correspondent writing from the British headquarters in France, says:

"One has but to motor over the shell-pocked fighting area of France and Belgium to appreciate the importance of the automobile. Painted dull grey, olive drab, or daubed zebra-like, on the principle that spotted colors prevent observation, they lumber or whiz, accord-

ing to their load and power, over the magnificent roads of France, most of which are still in superb condition, notwithstanding the traffic of war, bearing food, ammunition and supplies, at a rate that the general of old never dreamed of.

"A correspondent of the Associated Press, motoring southwest from Ypres, a few miles behind the lines of parallel trenches, passed hundreds of motor lorries, making their way to rail-head, there to collect supplies, which they would carry toward the front next morning. Driven by bus chauffeurs from the Strand and Piccadilly, by taxicab drivers from the four corners of the earth, many from Canada, some from New York, Chicago and Pittsburgh, these great cars, lights dimmed, crept along in an unbroken stream for miles, reminding one of the scene on the roads of Long Island the night before the Vanderbilt cup race."

General Petroleum Affairs Being Arranged

It looks as if the troubles which have been besetting the General Petroleum Company were in fair way of becoming adjusted to the satisfaction of all concerned, as well as to the good of the petroleum industry of California. After many conferences the nondepositing bondholders of the company appointed a protective committee, consisting of Frank B. Anderson, Chairman, John D. McKee, Joseph D. Grant, Percy Morgan, Mark Gerstle, Maxwell McNutt, Herbert Clayburgh and Richard Muleahy. Following the organization of this committee Chairman Anderson held a conference with Charles Hayden who expressed his willingness to act with the bond holders in an effort to work the company out of its present difficulties.

Captain John Barneson, together with A. L. Weil, president of counsel of the company, made statements to the committee and promised every active cooperation, placing the books at the committee's disposal. A subcommittee was appointed to draw up plans, this subcommittee consisting of Frank B. Anderson, John D. McKee, Percy Morgan, Joseph D. Grant and Mark Gerstle.

It is a well recognized fact that the difficulties encountered by the company are purely financial and not extended at all to the physical or operating end of the concern. The present troubles can easily be corrected by reorganization at the hands of the protective committee.

In line with this meeting is the news that Superior Judge Mogan in the suit of Victor Etienne, Jr., against the Western Ocean Syndicate, and General Petroleum Company for an injunction to prevent the use of \$179,000 worth of securities obtained by the defendants at the time of the reorganization of the General Petroleum by R. Tilden Smith and other financiers has ordered it to be transferred to the United States District Court. So far as the company is concerned this is a friendly suit and is made for the purpose of recovering a large amount of securities which are supposed to have been taken to a foreign country. While these securities may not be brought back, a court may annul them.

Oil men of Taft are in dead earnest about having something definite from the government on unpatented lands. It is a good movement and deserves the support of all oil men.

Canada took more than 22,000,000 gallons of crude oil in May of this year. Old England's colonies are evidently helping her to grease her wheels during the present difference of opinion across the water.

Oil Activities In May

Oil Production in May.

According to the Standard Oil Bulletin, May estimates of production indicate a stationary situation. The well completions, though few, are sufficient to maintain a fairly constant output. Compared with January of this year, the May period shows a daily production loss of but 4,375 barrels. Shut-in production heretofore reported as 21,000 barrels daily, has been reduced to 16,000 barrels daily, due chiefly to a resumption of operations in the Kern River Field.

May shipments averaged daily 240,858 barrels, as compared with 248,740 barrels daily during April.

Of the twenty-three well completions during the month, yielding an initial production of 11,300 barrels, the following wells are of more than ordinary interest.

Petroleum Limited Number 1, section 16-32-24, in Midway-Sunset Field, 1000 bbls. depth 2840 feet, gravity 26.8 degrees.

Southern California Gas Company, No. 2, section 16-32-24, same field. Production 1000 barrels, depth 2852 feet, gravity 28 degrees.

In the Santa Maria Field, Western Union Oil Company, No. 56, section 31-9-33. Production 2800 barrels, depth 3894 feet, gravity 28 degrees.

This well is located within the defined limits of the old field, and produced at completion at a rate of 5000 barrels daily. Its depth indicates that it may be producing from a lower oil horizon heretofore unexplored, but it is thought by many operators to be a freak.

Summary of developments and production for all California fields for May is as follows:

FIELD	New Rigs	Drilling	Completed during Month	Abandoned	Wells Producing	Production Per Day
Kern River	2	1			1,584	22,575
McKittrick				2	278	9,948
Midway-Sunset	9	43	10		1,334	106,790
Lost Hills-Belridge	1	3	3		244	12,208
Coalinga		9	1		812	37,923
Lompoc and Santa Maria	1	8	2		243	12,680
Ventura County and Newhall	1	17	2		434	2,967
Los Angeles and Salt Lake		1			681	5,670
Whittier-Fullerton	9	67	3		591	35,169
Summerland				1	102	148
Watsonville	1			2	4	75
Totals	22	150	23	4	6,307	246,153
Total crude oil stocks, May 31, 1915, 60,820,315 barrels.						
Total shipments from fields, May, 1915, 7,466,611 barrels.						

May Oil Shipments.

During the month of May the shipments of refined and gas and fuel oils in tank steamers from this customs district were as follows:

	Gallons	Values
Refined to—		
China	5,590,576	\$245,997
Japan	4,830,675	212,550
British India	1,966,196	86,513
Total refined	12,387,447	\$545,060
Fuel to—		
Canada	22,738,956	\$213,083
Hawaiian Islands	9,039,717	150,992
Chile	7,449,162	120,370
Panama	5,040,000	97,200
Total fuel	44,267,835	\$581,575

The foregoing compares as follows with the movement in May, 1914:

	Refined	Fuel	Totals
1915	12,387,447	44,267,835	56,655,282
1914	11,700,009	28,498,200	40,198,260

Increase 687,447 15,769,200 16,457,022
The total value for last month was \$1,126,635, against \$1,011,885 in May, 1914.

Patents Recently Granted.

The following recently granted patents of interest to the oil industry are reported expressly for the California Derrick by Joseph M. Nesbit, patent attorney, Park Building, Pittsburg, Pa., from whom printed copies may be procured for 15 cents each:

Machine for raising and lowering well piping, M. B. Whisenant, Hollis, Okla., 1,137,101.
Oil Well Plug, J. T. Hall, Coalinga, Cal., 1,137,205.
Underreamer, F. A. Haugh, Independence, Kans., 1,137,615.
Well drilling implement, A. de Bretteville, San Francisco, Cal., 1,138,188.
Rod clamp, M. M. Cox, Corona, N. Mex., 1,138,195.
Apparatus for the industrial manufacture of a new spirit by the isomerization of petroleum, Auguste Testelin, Laeken, and Georges, Renard, Ixelles, Belgium, 1,138,260.
Coupling for oil wells, A. B. Solinger, Sackett, Pa., 1,138,421.
Portable drilling rig, C. D. Randall, Reward, Cal., 1,138,506.
Underreamer, E. R. Beckert, Chicago, Ill., 1,139,096.
Mechanism for boring holes in the earth, J. V. Gundmond-Hoyer, Morris, N. Y., 1,139,275.
Well reamer, H. R. Hughes, Houston, Tex., assignor to Sharp-Hughes Tool Co., same place, 1,139,529.
Means preventing the accumulation of gas within oil wells, Alex. Ames, Alluwe, Okla., 1,139,745.

California Petroleum Company's Showing.

The statement of the California Petroleum Company and its subsidiaries for the six months ending June 30, 1915, makes the following showing:

Net earnings	*\$684,431
Expended on new wells	77,000
Depreciation and betterments	37,730
Other deductions	119,000
Interest	58,644
Proportion of earnings app. to stock of sub. cos.	
in hands of public	16,206
Total deductions	308,580
Balance	\$375,851

*May and June estimated.

The company has issued the following statement relating to its reduction of the preferred dividend:

Notwithstanding that the preferred stock is entitled to a cumulative dividend and that the amount held back, 75c a share, must later be paid before dividends can be paid on the common stock, the board has decided that it is for the best interests of all the stockholders that its available funds should be used for other purposes.

At the present time the oil business as a whole on the Pacific Coast is in a depressed condition. Large stocks of oil have accumulated and are being carried in storage at the present time, and a large over-production exists. Competition for the limited market is keen, which has resulted in the continual lowering of prices.

Your companies have on hand nearly 2,500,000 barrels of oil that they are now carrying in storage and are accumulating at the present time about 100,000 barrels monthly which it finds necessary to provide storage for at a considerable cost.

Contracts held by the companies at a good price for their oil have expired and the sales at the present time only cover part of the production at a greatly reduced price. It is believed by your directors that the general world conditions have had a material bearing on the present conditions in California and it is hoped that with the ending of the war conditions will change for the better in the oil situation in this state.

In the meantime it is considered advisable to conserve the financial resources of your companies, in order to be well fortified during the great uncertainty of present conditions. It is also believed that the best interests of the stockholders will be served by using to some extent available money for the acquisition of additional properties available at attractive prices on account of depressed conditions in California. Such conditions should result to the great advantage of your companies when conditions improve, as we believe they must in time.

Pipe Lines Do Well.

All but three of the former Standard Oil Pipe Lines reported increased deliveries for May, over May of 1914. The companies which failed to increase their deliveries over last year were the Buckeye, New York Transit and Northern Pipe Line. Among the companies showing greatest gains were the Southwest Penn Pipe, Crescent, Cumberland, National Transit and Prairie.

Burned in Government Tests.

Ten men were badly burned, one fatally, by an explosion at the plant of the Aetna Chemical Company, at Pittsburg, Pa., where the government is carrying on experiments of a new process for the manufacture of gasoline.

Increase in Petroleum Production.

The quantity of petroleum produced in the United States during the first half of the year 1915 is conservatively estimated by J. D. Northrop of the United States Geological Survey at 145,000,000 barrels. His apportionment among the major fields is as follows:

Appalachian, 11,300,000 barrels; Lima-Indiana, 1,800,000 barrels; Illinois, 9,000,000 barrels; Kansas and Oklahoma, 58,000,000 barrels; Northern Texas, 3,500,000 barrels; Northwest Louisiana, 7,600,000 barrels; Gulf Coast, 7,500,000 barrels; Wyoming, 1,500,000 barrels; California 44,700,000 barrels; Miscellaneous, 100,000 barrels; total, 145,000,000 barrels.

This quantity, which includes a considerable amount of oil placed in field storage since January 1st (chiefly in the Mid-Continent region) represents approximately one-half the total above-ground production credited to 1914 though disclosing a notable increase when compared with the production during the corresponding period in that year. When it is considered that the average market value of crude petroleum at the wells in the half-year just closed was 40 to 50 per cent lower than that one year ago, this condition appears somewhat anomalous. Two factors, however, explain the situation—(1) Cushing and (2) new pools.

During the first half of 1914 the output of petroleum from the prolific Bartlesville sand in the Cushing field, Oklahoma, increased from a few hundred barrels on January 1st to nearly 140,000 barrels a day by the end of June. During the first half of the present year, however, the estimated production from all sands in this pool alone has at no time fallen below 200,000 barrels per day, attaining at times an estimated daily yield as high as 280,000 barrels.

Though the first half of 1914 witnessed the opening of the Colmar and "Murphy" pools in Illinois and a notable development in the Cushing and Healdton pools, Oklahoma, the increased output resulting was more apparent during the second half of the year than the first. In 1915, however, the early discovery and rapid development of the Crichton pool, Red River Parish, Louisiana; the Thrall pool, Williamson County Texas and the Strawn pool, Palo Pinto County, Texas, served to increase appreciably the petroleum output credited to the first half of the year.

The persistent flood of low priced but relatively high grade oil from the Oklahoma fields prevented any permanent advances, though temporary fluctuations were noted, in the market for grades of petroleum from other regions during the half year in review and the period closed with a fairly steady demand on the basis of \$1.35 for Pennsylvania grade, the market standard. The corresponding period in 1914 recorded a notably unstable and declining market, prices of Pennsylvania grade decreasing in the period from \$2.50 to \$1.75 per barrel.

Standard Oil Banks in China

Consul Lester Maynard of Amoy, China, writes as follows:

For some months past there have been rumors that the Standard Oil Co., of New York, contemplates the organization of a thorough banking system through the Far East, utilizing its existing offices. The advantages of this to American commerce are too obvious to need explanation, and it would be difficult to predict the extent of the benefits. At present there are no banking facilities with interior points, except Chinese banks that have no foreign connections and are in many cases unreliable. This makes direct business with the interior impossible, but with its thorough organization throughout most of the Provinces of China, and utilizing its native agents, the Standard Oil Co. would be enabled to establish a network of banks with branches reaching nearly every corner of China. The benefits would be particularly marked in this district, for, as previously explained, commerce is wholly dependent on one bank, which controls the situation at will.

Shell Makes Good Report.

The Shell Transport and Trading Company reports the following income account for 1914:

Brought in	£ 344,962	£ 255,194
Interest on investments	103,535	74,286
Dividends, etc	1,553,484	1,506,903
Total	2,001,981	1,846,383
Management, etc	13,935	13,501
Depreciation of Invest	24,000	14,921
Issue expense		17,702
Surplus	1,964,046	1,800,219
Reserve		3,162
Preferred dividend	100,000	81,250
Ordinary dividend	1,427,251	1,389,282
	35	35
	per cent	per cent
Forward	436,795	326,564
Dutch Co.'s depreciation	1,266,800	1,218,000

Reducing Gasoline Prices.

The Burton process, by which 80 per cent of gasoline is obtained from crude oil, has been developed and perfected by the Standard Oil Company of Indiana, and this will determine the price of gasoline throughout its marketing territory. The company has notified all customers that it will contract for the remainder of the calendar year on a basis of eight and a half cents a gallon for deliveries of 100 gallons or over and of nine and a half cents a gallon for deliveries under 100 gallons.

It is easily seen that the company gets good profit even at this rate. If it gets 80 per cent of motor spirit out of a barrel of crude oil it would have 36 gallons, which at eight and a half cents a gallon would yield \$3.06. Cost for this would be 40 cents a barrel for crude oil, 60 cents for gathering, shipping and delivery, and a liberal allowance of \$1 for refining a barrel and overhead, and there would still remain a profit of \$1 on every barrel of crude.

Southern Pacific Gets Grand Prize.

The jury of awards at the Panama-Pacific International Exposition has awarded the Southern Pacific Company the grand prize for its display of equipment in the Transportation building, thereby placing the official stamp of approval on what has been recognized as one of the most instructive exhibits of the change in the development of track, car and locomotive in the last half century.

Want Prompt Action.

Prompt action by the government is wanted by the Taft, Cal., Petroleum Club. At a recent meeting it discussed the attitude of the government toward oil lands that are still unpatented, and appointed a committee to devise a plan of organization of those interested to take the matter up with the government. The committee is composed of H. F. Williams, F. J. Burns, A. J. Pollak, M. F. Luton, J. H. Dearin, Jr., Walter Barnhart, L. H. McCutcheon and L. P. Guiberson.

Getting an Italian Market.

Consul F. T. F. Dumont, of Florence, Italy, writes to the Department of Commerce, at Washington that poorer qualities of gasoline, petroleum, turpentine, heavy oils, and paraffin, at cheap prices, imported into this district before the war from Roumania, Austria, and Russia, have been replaced by American companies' product, imported from the United States through agents in Genoa and Leghorn.

General Petroleum Reorganization Plan.

Complete details of the plan of reorganization of the General Petroleum Company appear in a communication addressed to the bondholders and interim certificate holders inviting them to deposit their securities with the Mercantile Trust Company of San Francisco under a form of agreement giving to the committee full power to act for the security holders.

It is a most interesting document and shows that the committee which has been in existence less than two weeks, has given deep and careful study to the situation and has reached a plan which bids fair to solve the difficulties under which the General Petroleum Company has been working. Some of these difficulties are evidenced in the following paragraph taken from the communication to the stockholders:

Three semi-annual installments of interest on these bonds are now in default and the financial condition of the company compels reorganization, involving an adjustment of the various interests of the British investors, the pipe line security holders, the short term note holders, and all the other elements of strength and weakness in the General Petroleum Company.

The communication asks all holders of securities mentioned above to deposit them with the understanding that if the plan adopted by the committee for reorganization does not satisfy the depositing bondholders, to whom it must be submitted before being placed in operation, they have the right to withdraw their securities. What these securities are and how disposed of is shown in the following excerpt from the communication:

Out of \$19,232,000 bonds outstanding, \$6,000,000 are pledged by the company to secure \$3,000,000 of overdue collateral notes, \$750,000 are pledged for other obligations of the company, \$8,119,500 are registered in one block in the name of The General Petroleum Company, Ltd. (a British company,) and \$3,658,600 are held by the general public and \$571,800 are on deposit with the Mercantile Trust Company of San Francisco.

So far as the British Company is concerned the communication says the bonds which have been delivered to that company have already been pledged by the British company to secure an issue of its debentures, amounting approximately to \$2,000,000, and that the British company has practically no corporate assets other than these bonds, and that none of the expectations which the bond depositors had been led to entertain have been realized, nor are they likely to be realized.

The communication asks that the committee be given full power to act, with the understanding that if the plan formulated be not satisfactory to any bondholder or interim certificate holder, then that individual may withdraw his securities upon payment of a small sum (not to exceed \$5 on a bond) to cover the expenses incurred by the committee, during its preliminary work.

Unquestionably this is the first step in the right direction to bring a good company out of its financial difficulties. It is possible that the reorganization committee, before it gets through with its work, will have to bring suit against Andrew Weir and his associates for the recovery of the bonds which the British corporation are now using as a basis for selling its own debentures. Failing in such recovery, and such failure is extremely possible for it will be difficult to have any judgment rendered by a United States court made effective in a foreign land, then it will be the duty of the reorganization committee to go before the court and ask to have the bonds held by the British concern cancelled and to empower them to issue new bonds in lieu thereof.

Exposition Jury Awards Standard Oil Company Gold Medal on Its Work and Policies.

Besides awarding gold medals to the Standard Oil Company (California) on practically all of its products, the jury of awards, Panama-Pacific International Exposition, has awarded a medal of honor to the oil company on "its work and policies," and a special medal of recognition of the Standard's conservation work in the California oil fields, it was officially announced at the Standard Oil Building recently.

Commenting on the "work and policies" award, K. R. Kingsbury, vice-president of the company said: "That award applies specifically to the manner in which our company has dealt with its employees, its customers and the public, and for the methods it has developed in producing, transporting, refining and selling petroleum."

"Another award in which we feel a deep sense of gratification, is the gold medal for our conservation methods in the oil fields. This company has always bent every effort toward eliminating waste in the production of petroleum and has initiated and placed in operation many devices and methods tending toward conservation and efficient operation of oil wells."

Barrel Coupling With Gas Escape.

A. Ames, of Liberty, Kas., has invented and patented a new barrel coupling which appears to cover a field heretofore unoccupied. The details of the patent show that the invention is a lower working barrel coupling with gas escape, made of two pieces. The coupling is the same as the ordinary coupling with the exception that one-half runs up tapering as high as the ball in the stand valve with a tube running down inside to one inch below the valve seat. This then is crossed by a one-eighth inch brass tube up the inside of the stand valve to within one-half inch of the ball. As the well fills with fluid the weight of the fluid forces the gas down through this tube and up through the outside tube, and when well starts it has fluid and no gas, and starts pumping without bumping or pulling the rods out of the barrel.

New Raising and Lowering Machine.

Marvin B. Whitsenaut, of Hollis, Okla., has patented a machine for raising and lowering well piping, the object of which is to provide a machine adapted to be manually actuated through the oscillation of a lever, which machine will raise or lower well piping or a pump rod, subjecting the same to a step by step displacement. Another object is to mount wrench holding sockets upon the machine so that one section of a pipe or pump rod may be held against rotation by one of the wrenches while another section is being coupled or uncoupled. It also provides a means for holding a lower section of well piping elevated sufficiently above the other section to permit two sections of pump rod contained within the two pipe sections to be coupled together.

Compiles Valuable List.

L. L. Longdon, whose business is the compilation of industrial and trade lists, has compiled an accurate and complete list of the petroleum operators, producers and refiners of the United States, totaling more than 5000 names. He is now seeking 200 subscriptions to this list, at \$5 each, when he will print it in book form for ready reference. Those interested may learn more of this list by addressing Mr. Longdon at Oxford, Ohio.

Petroleum Feels Lack of Shipping.

It is not lack of demand that is causing the decrease of petroleum exports from the United States, but lack of shipping to carry the product. This fact is evidenced by the fact that coincident with slight increase in available ships in the month of April, there was also an increase in oil shipments over those of March.

Final figures compiled by the United States Department of Commerce show total exports in April of this year of 172,170,299 gallons of petroleum shipped from the United States, a decrease of 48,882,614 gallons from the shipments of April 1914. But there was an increase of 3,783,477 gallons over the preceding month. The value of the April shipments was \$11,407,548, which was a decrease of \$3,234,103 from the value of the shipments of the same month of last year.

This comparison with last year's figures show how petroleum feels the lack of shipping facilities. It is unquestionably the fact that our oil shipments would be breaking all previous records if we could secure adequate transportation facilities, for the simple reason that there is a bigger demand on the American market now than ever before. The great Russian fields are shut off from the world; Mexico is torn with internal dissensions and oil production and shipment from that country is almost at a standstill; the entire demand of the world at present must be supplied, if supplied at all, from the American field.

The appended table shows the total mineral oil shipment from the United States during the month of April of this year as compared with April of 1914:

	April 1915	April, 1914
Crude	8,863,482	8,765,543
Illuminating	59,832,778	106,794,586
Lubricating	25,900,105	18,763,133
Gasoline	10,071,792	15,185,395
Oth naphtha	14,187,422	7,965,469
Gas. fuel oils	53,132,192	50,719,211
Other resid	182,528	12,859,576
Total	172,170,299	221,052,913
Value	\$11,407,548	\$14,641,651

It is to be noted from this report that there were no gasoline shipments direct to the United Kingdom. Since April, however, Great Britain has been the destination of some of the largest consignments of gasoline that have left this country.

The chief cause of the falling off in the export of illuminating oil is attributed to the remarkable falling off of shipments of that product to the Netherlands, the shipments to that country showing a decrease of 12,000,000 gallons.

It goes without saying, in light of the above facts and figures, that as soon as we can have better shipping facilities there will come such an insistent demand for our surplus oil that the stocks above ground will be totally inadequate to furnish the supply.

Lucky Boy Affairs Settled.

The dispute between the factions of the Lucky Boy Oil Company has been settled by a compromise which has brought about a division of the company's holdings on section 31, 32-24 in the Midway field. The majority interests now control the company with the shares of the minority stockholders turned into the treasury, one third of the 120 acres of land of the company being turned over to the minority interests, which organized a new company under the name of the On Top Oil Company. Dr. J. J. O'Brien, president and treasurer; V. L. O'Brient, secretary; Jesse F. Waterman, vice-president.

State to Protect Oil Fields

Recent state legislation for the protection of oilfields from underground water, places the control with the State Mining Bureau. The State Mineralogist, Mr. Fletcher McN. Hamilton, is empowered to appoint a State Oil and Gas Supervisor who will be in charge of the work about to be undertaken; his office will be at the Bureau in San Francisco. The Supervisor will appoint deputies, who must be permanently stationed in the various oil fields, and it will be their duty to become thoroughly informed upon the physical conditions causing the water damage.

The results of the investigations by the field deputies will be available to all oil operators. It is expected that the information and advice to be given out by the deputies will in a large measure enable the solution of the problem where it is physically and economically possible to do so. Most operators are, of course, anxious to develop their properties in the most systematic and approved fashion and need no compulsion.

The exceptional cases where operators refuse to take proper precautions to protect their own territory and that of their neighbors will be dealt with by the supervisor directly. He will make use of all the information presented by the interested parties, as well as that gathered by his deputies. Any order issued by the supervisor may be reviewed and set aside by an arbitration board chosen by the affected operators. Means are provided for carrying out the final order of the supervisor or arbitration board and the cost of repair work becomes a lien upon the offending property.

California is noted for the mechanical skill shown by its drillers in sinking deep and difficult wells and the State Mining Bureau will not assume the attitude of being able to teach them in their own specialized branch of work, neither will the attitude of a prosecuting officer be assumed. The chief aim of the State Mining Bureau, in carrying out the new law, will be to act as a clearing house of information between the operators. Every well that has been drilled has disclosed some information as to the underground conditions. Much of this information is scattered and not now available for the guidance of new development of oil land. The experience and knowledge of all operators, if systematized and made available for common use, will certainly go a long way toward solving the water trouble. However, no purely mechanical system of assembling information will be of the greatest service unless accompanied by the interest and co-operation of officials and employees of all operating oil companies. The State Mining Bureau anticipates such assistance and expects to perform its work in such a manner as to encourage co-operation.

It can not be economically possible to stop the water in all the old oil wells in the state. In some cases the cost of shutting off water would far outweigh the benefits that might be obtained. It should be possible, however, to drill new wells in such a manner that the damage will not ensue. As in every other complicated problem, this one must be solved by the aid of common sense and judgment rather than the application of any inflexible rule.

The Standard Oil Company has opened stations for the direct sale of oil and gasoline to motorists.

CALIFORNIA CONCENTRATES

The Union Oil Company has rigged up for well No. 50, on the G. & L. lease at Brea, Cal.

California Petroleum Corporation directors have declared a dividend of 1 per cent on preferred stock.

The Petroleum Midway, Ltd., is preparing to build a new rig at once on section 16, 32-24.

The Victor Oil Company is going to redrill its No. 4, section 35, 32-23, in the Fellows district.

The M. Z. Elliott Oil Company is preparing to drill a new well on section 15, 31-22, near Taft.

The Shell refinery at Martinez is to be finished and ready for business in August.

Certificate of removal of the Rice Ranch Oil Company from Orcutt, Santa Barbara County, Cal., to Los Angeles, has been filed.

The Standard Oil Company of California announces a cut of 5 cents a barrel on crude oil at wells, on oil ranging from 14 to 29.9 degrees gravity.

The Shell Transport and Trading Company has declared a final dividend of 5 shillings, making 25 per cent paid in dividends from 1914 earnings.

An assessment of three-quarters of a cent per share has been levied by the Blue Diamond Oil Company, of Grass Valley, Cal.

The Shell Transport Company, Ltd., report record profit for the year. The amount is in excess of \$10,000,000.

The Record Oil Company, at Fellows, Cal., is preparing to redrill its No. 4 well, on section 28, 31-23, because the well has shown badly.

The Associated Oil Company has leased a portion of land on the siding of the Northwestern Pacific at Santa Rosa, Cal., and will install mammoth storage tanks.

Standard Oil Dividends for the fiscal half of 1915, will aggregate \$729,610,602. This is a decrease of \$4,605,985 from a corresponding period of 1914.

It is reported that the Salome Oil Company, at Globe Arizona, is preparing to open a new well. The company has extensive holdings near Tonto Basin.

It is reported that extensive exploitation of Monterey County, Cal., lands will be made at an early date by Los Angeles owners.

The new navy tanker, Kenawha is in waters off San Pedro on her trial trip, and aerograms from her say that every test requirement has been successfully met.

The Trojan well, No. 7, Maricopa, came in strong with an initial flow of 500 barrels, and then sanded. It was cleaned out and is again at work.

No. 8 well of the Indian and Colonial Development Company, of section 22, 32-23, near Taft, has been keeping up its production despite the fact that the derrick was burned down last month, and the company has decided that it is not necessary to rebuild the rig.

The Salome Oil Company, of Globe, Ariz., has opened offices preparatory to developing the company's property in the Tonto Basin fields.

Fire caused a loss of \$50,000 to the Shell company by the destruction of its pumping station, storage shed and loading platform at Rodeo, on July 4.

The National Oil Company, of Los Angeles, has incorporated. The capital stock is \$10,000, and the incorporators are Maurice M. Julian, Samuel S. Schwab and Harry H. Schwartz.

It is reported that work will be commenced on several more leases on the Yorba Linda tract, at Whittier, Cal., within the next month. Much interest is noted in the recent discovery of oil on this tract.

The General Petroleum Company is arranging to decrease cost of production in the Fellows district by the installation of new Oklahoma type jacks with the wells to be handled with one power.

Electricity will be the motive power for a jack that is being installed on two wells of the Elkhorn Oil Company, near Taft. Pumping by this method will reduce cost.

It is believed that the water which was interfering with No. 4 well of the Midway Consolidated, Ltd., on section 4, 32-23, has been entirely shut off. This well will soon be on the producing list.

Anglo-American Oil Company has declared a dividend of 10 per cent free of income tax, which with the interim dividends will make 20 per cent for the year 1914.

It was announced at the annual meeting of the Imperial Valley Oil Development Company, that operations are to start on a big scale in the Company's field near Holtville, Cal., very soon.

The California Petroleum Company passed its regular quarterly dividend of one and a quarter per cent. A statement showing cause is given elsewhere in this issue of The Derrick.

A report from Taft, Cal., says No. 14 well of the North American Oil Company on the Section Two Syndicate Division, on section 2, 32-23, is now down 1400 feet.

No. 3 well of the General Petroleum Company, on the H. & T. lease, on section 22, 32-24, at the far end of the Buena Vista Hills, is being brought in. It is down 3,600 feet and has a good showing.

A dispatch from Enreka, Cal., says that James W. Dunlop, Col. G. F. Munday and E. A. Andrews, of Medford, Ore., will immediately begin drilling operations at Briceland.

The Ventura Refining Company, of Ventura, Cal., has been incorporated with a capital stock of \$500,000. Its principal place of business will be in San Francisco. The Company is practically a subsidiary of the Montebello Company, and will handle the product from that company's wells.

The Pluto Oil Company, operating in Devil's Den, has expended fully \$150,000 unsuccessfully and now has quit and sold its entire equipment to the Lakeview No. 2 Oil Company for \$57,000.

Western Union Oil Company is back on the list of paying companies through the disbursement of a May dividend at the rate of \$1 a share, after passing the dividends for several months.

The Grand Bay Oil Company has been incorporated at Phoenix, Arizona, capitalized at \$25,000. The incorporators are J. H. Eastman, Paul E. Davidson, Grant Richardson, A. C. Shelling, Harry J. Fernandez and John T. Allison.

The Massachusetts-Wyoming Oil Company has been incorporated at Phoenix, Arizona, with a capitalization of \$3,000,000. The incorporators are Dwight B. Cornell, R. J. Mosher, R. G. Wieland, Fred H. Cornell and D. Lloyd Cornell.

The Case Mineral and Petroleum Company, of Los Angeles, capitalized at \$500,000, has applied for permission to sell 175,000 shares of preferred stock at \$2 per share, par value \$1. per share. The money is to be used in reducing liabilities and to construct a plant and oil refinery and complete wells.

An Interesting Motor Vessel.

A very interesting motor vessel is under construction by the Goteborgs Nya Verdksteds of Gothenberg, Sweden. This is a tank vessel named the Varjag, built to the order of Nobel Brothers of Petrograd. The boat is 368 feet long over all, 354 feet 6 inches between perpendicular, has a beam of 55 feet and a moulded depth of 20 feet and carries 6500 tons of oil on a draught of 24 feet. It is anticipated that she will be launched this month and completed very shortly afterward. She would have been in service before this had not the war interrupted the shipbuilding and engineering trades to a considerable extent in Sweden. The machinery installation is particularly interesting, consisting of two 1650 h. p. six-cylinder Polar engines, built by the A. B. Diesels Motorer of Stockholm. They are of the usual two-cycle type as manufactured by that firm, but instead of the previous arrangement of scavenging cylinders below the working pistons as in the motor ship Sebastian and one or two other vessels, separate scavenging pumps will be employed. The same system of scavenging, however, through ports in the bottom of the working cylinders will be adopted and valves in the cylinder cover for this purpose will be dispensed with. The total indicated power of these engines will be about 4000.

Changes in Merced Company.

The Merced Paraffine Oil Company announces the election of the following officers: President, Charles Bambauer, Volta; vice-president, George Christian, Dos Palos; secretary and manager, Adolph Salau, Los Banos; directors: W. E. Bunker, Gustine; J. M. Triglia and Mrs. O. Wilson, Los Banos; A. G. Clough, J. B. Garibaldi and W. E. Landram, Merced. The main offices were ordered removed from Merced to Los Banos.

Just because a company is big is no reason for knocking it. Its duties are generally carried out on higher moral plane than those of the little fellow.

Railroads Ordered to Furnish Tank Cars.

A decision by the Interstate Railroad Commission relating to tank cars for oil companies will be far reaching in its effect, and will tend to discourage oil companies and refineries from owning their own tank cars. The Commission, acting on a complaint of a Pennsylvania refinery, ordered the Pennsylvania Railroad to furnish a sufficient number of tank cars to move shipments of petroleum products from the refinery to its various points of destination.

In response to the railroad's contention that it should not be required to take over cars that are owned largely by shippers or by special car companies, which lease them, the Commission said: "Hereafter all cars used by carriers, whether they are owned by the carriers themselves or are leased from private car lines or from shippers, must be distributed without discrimination."

Refiners will now look to transportation companies for tank cars, which in turn, will look to private companies like the Union Tank Line Company which controls large numbers of tank cars.

Royal Dutch Gives Interesting Facts.

There are some interesting facts contained in the report of the Royal Dutch Petroleum Company, just made public. The first of these is the fact that when the war broke out the company had a shortage of tonnage, which was at once accentuated by the closing of the Dardanelles. The report says of this situation:

"Export from Russia and Roumania through the Black Sea became impossible, and the part of the demand which had always been satisfied from this quarter had to be supplied from other oil producing countries. This meant an entire reorganization of the transport business, but the financial sacrifices thus involved found compensation in other ways so that, on balance, the financial results were about the same as in 1913."

The report calls attention to the fact that the Shell Company of California, Ltd., owns the refinery at Martinez and that further tankers are being built so that a complete business in the state will soon be possessed.

A New Independent Refinery.

The Ventura Refining Company is preparing to build a new refinery at Fillmore, Cal., and has asked permission of Superintendent of Corporations Carnahan to sell 60,000 shares of its capital stock at the par value of \$5 a share. W. P. Hammon is president and A. E. Boynton secretary and treasurer of the company.

Oil Yield of Argentina

The United States Geological Survey calls attention to the fact that the figures given for Argentina's oil output in the translation from La Nacion, of Buenos Aires, published in Commerce Reports for May 27, 1915, are too large. Additional information in the subject is being sought and will be published as soon as available.

Oil Man Drops Dead.

George D. Roberts, president of the Exploration Oil Company, dropped dead of heart disease, at Coalinga, Cal., June 21. Roberts was one of the most prominent oil men of the state and resided at Los Angeles.

THE SETTLING TANK

Presenting Brief Resumes of Informative Bulletins, Addresses and Like Matter, Gleaned From the Most Reliable Sources.

Buried Oil.

Hidden reservoirs of oil fuel for submarines, anchored on the bottom of the sea, have been suspected by the British to be the means by which German submarines have been able to operate far from the apparent bases of supply; and, though there is no proof that the German submarines are using such hidden reservoirs, or would even have any need of them, it has become known that such reservoirs have been constructed in a way which makes them practical.

The reservoir is a steel cylinder of varying size, up to one hundred and fifty feet long, with several compartments filled with oil fuel, and some compartments designed to hold sea water or air, as may be desired. The cylinder is towed to the hiding place and sunk by filling some compartments with sea water. An inconspicuous float on the surface marks the place where the cylinder is sunk.

To take oil from the cylinder the submarine crew locate the float and pull it up, bringing with it a flexible pipe. Air is then pumped into the pipe and the air forces the water out of the compartment of the cylinder causing the whole outfit to come to the surface. An oil-supply hose from the submarine is then attached to a valve on the side of the oil tank and the oil is pumped to the submarine. After a supply is taken, water is again allowed to flow into the cylinder, which then sinks to its place on the bottom.—Saturday Evening Post.

Asphalt in the Philippines.

Consul General George E. Anderson, of Hong Kong, writes as follows regarding asphalt and oil deposits in the Philippines:

The commercial development of the asphalt of Leyte province, in the Philippine Islands, is being undertaken by a Philippine corporation upon a practical scale. The company is known as the Leyte Asphalt & Mineral Oil company. Its seat is at Tacloban, Leyte province near which place the asphalt beds lie. The capital of the concern is \$150,000, about one-third of which is represented by the lands comprising the asphalt bed claims.

The deposit of asphalt which the company will develop was described in a general way in a previous report from this consulate general. The supply is all but inexhaustible, and the bed lies near the shore line at Tacloban, at which port ships can anchor and take on cargoes of the asphalt from lighters loaded at the mines with practically no overland transportation. The property of the company commencing the development consists of 656 hectares ranging close to the sea, but there are other extensive deposits, the vein ranging for about 15 miles along the sea coast. The deposits also contain oil of a high grade and further development of the property along that line is planned. The asphalt taken from it has been through practical tests, both in the Philippines and the United States, and it has already been purchased by the Philippine government for extensive use on the roadways in the Philippines. It is almost pure near the surface and is exceptionally pure at greater depths.

The oil deposits—evidenced by oil flowing with water from a spring—contain oil pure enough to be used by the natives for illuminating purposes. The deposits were discovered by representatives of the bureau of public works at Manila about two years ago, and the present development is being undertaken under the direction of the discoverer.

The company now developing the deposits not only expects to supply the Philippines, which in itself has a large and growing trade, but to export the asphalt extensively. There is a growing demand for this product in all the cities of the Far East, and with a supply at hand at a comparatively reasonable price, the trade will doubtless soon assume still larger proportions.

Oil Engines in Hongkong

Consul General George E. Anderson, Hongkong, China, writes as follows regarding oil engines:

In spite of the general depression of trade noticeable in all lines and especially in those lines of trade which depend directly upon Chinese consumption there seems to be a continued demand for internal combustion engines of several varieties and especially sea coast. The deposits also contain oil of a high grade and for marine motors. The growth of the trade in normal years has been remarked upon by nearly all trade authorities, the Commis-

sioners of Customs at Canton in his last annual report just published saying, for example:

"The demand that is becoming noticeable for oil engines, both stationary and marine, is due chiefly to recent improvements in motors permitting the use of crude oil in place of the much more expensive gasoline and a large development of this trade in the near future may confidently be predicted. Crude-oil motors for irrigation purposes were erected during the year in the Ko Ming district on the West River, near Samshui, and larger engines of similar type were also imported for the use of the Fatsan Electric Supply Co. Oil engines usually an exact copy of some foreign pattern, are being made locally by the local Chinese engineering firms, who are presumably alive to the growing demand for motive power in a handy form."

The manufacture of such motors in Canton or elsewhere in this part of the world so far has not developed to any considerable extent nor is it likely to do so for some time to come so long as prices of American or European motors can be held down to fair figures. The use of motor pumps for irrigation along the West River, as heretofore reported from this office, has so far not been very successful, though the coming on of the war in Europe and the collapse of South China's foreign trade has prevented a fair test of the demand for engines for such purposes.

The war has also directly affected the development of the motorboat traffic on south China rivers by causing the depression which has existed for months in all lines of Chinese activity. Nevertheless the trade has continued in fair volume and with the advent of normal conditions in this field the demand will increase greatly. The type mostly in demand is that heretofore described—a heavy duty, simple motor with few working parts and an ability to stand exposure, dirt and neglect, and using crude oil or petroleum as fuel. The demand is mostly for marine motors and motors suitable for small electric-light power plants and for running very small industrial establishments.

Lightning Fires Oklahoma Tanks.

Thirty-one large oil tanks, containing some 350,000 barrels of crude oil, were set on fire at Cushing, Oklahoma, on June 22, during an electric storm. A report from Healdton says that eight large tanks were struck by lightning and set on fire there.

DIVIDEND NOTICE

GERMAN SAVINGS AND LOAN SOCIETY

The German Savings and Loan Society, 526 California Street, San Francisco—Mission Branch, Corner Mission and 21st Sts.; Richmond District Branch, corner Clement St. and 7th Ave.; Haight Street Branch, corner Haight and Belvedere Sts.—For the half year ending June 30, 1915, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, payable on and after Thursday, July 1, 1915. Dividends not called for are added to the deposit account and earn dividends from July 1, 1915.

GEORGE TOURNAY, Manager.

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Natural Gas in Solution with Water

A. S. Cooper, E. M.

The quantity of a gas dissolved by a specific quantity of a liquid is proportional to the pressure of the gas, therefore the solubility of underground gases in water is almost proportional to the depth below the level of the water ground. For instance, at a depth of 1,000 feet below the level of the ground water one cubic foot of water will hold in solution about 1.30 cubic feet of gas. At 2,000 feet below the level of the ground water; one cubic foot of water will hold in solution about 2.60 cubic feet of natural gas. But in order that saturation of any gas corresponding to the pressure at any depth shall occur, it is necessary that a sufficient amount of gas shall there exist.

Accompanying diagram illustrates the action of wells in a formation containing water; which is charged with natural gas.

In the diagram it is assumed that below the line of water level I J the permeable strata are permanently saturated with water, by hydrostatic pressure, and will remain so unless the water be continuously drawn off artificially by artesian wells or pumps, or naturally through fissures, faster than it is renewed by meteoric water.

In the diagram it is assumed that when the level of the water I J sinks to the line K L that all the water lying below the line K L is saturated with natural gas. The line K L may be called the line of gas saturation.

All of the above conditions frequently occur in nature.

When pumped a larger amount of gas from a given amount of water will be obtained from the well A, than the wells B, and C, although the water in B, and C, will have to be lifted to the same height as in the well A. On account of the larger amount of gas contained in solution in well A it may be profitable to operate well A, whereas to operate wells B and C might be unprofitable.

The lift of water in well D on account of being at a lower level will be less than in the wells A, B, and C.

Well E on account of striking the fissure N although of a much less depth than well D, will draw water from the same stratum as the well D.

F is a flowing spring yielding gas and water. Springs of this character are found in nearly every state of the union. These springs have been flowing ever since they have been known, and probably thousands of years before their discovery.

G is an artesian well flowing water and gas. Hundreds of this class of wells have been obtained in the gas fields of the United States, and elsewhere, and many are still flowing in the abandoned gas, and oil fields, without any effort being made to increase the amount of gas by increasing the flow of water, which in many instances would be many fold.

There are about fifteen wells in the city of Stockton, California which unassisted yield a small artesian flow of gas and water. Some of these wells have been flowing for over thirty years. The local gas company use an accelerator, which is in the form of a gas compressor which forces the gas back down into the wells, the gas by its buoyancy raising the water more rapidly, and in larger quantity, producing a corresponding increase in the gas flow. Sufficient gas is obtained from these wells to supply a population of thirty thousand people. Wells A, B, C, and D can be operated with compressed gas if the water in them is not too far below the surface.

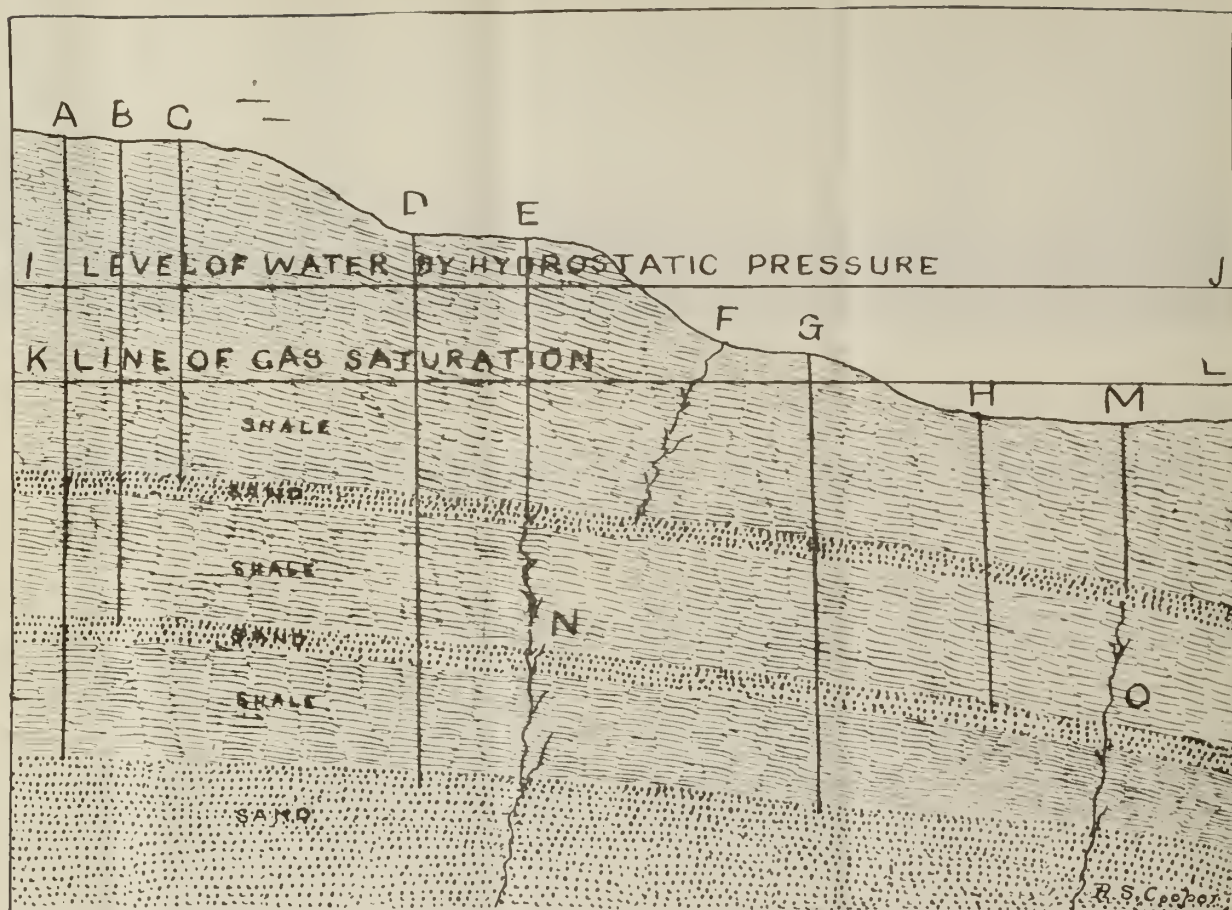
From the results shown by many gaseous wells and springs in the Sacramento and San Joaquin valleys of California, it has been computed that to a depth of 4,000 feet below the surface there are over one hundred trillion cubic feet of natural gas in solution with water.

Enormous amounts of natural gas in solution with water are also to be found below the surface in the other great basins of the United States.

When considering the action of gas wells it must be borne in mind that when conditions are favorable gas comes out of its solution with water almost instantaneously, and goes into solution very slowly. The liberation of gas by decrease of pressure in a column of water in a well or spring lightens the column of water and acts as a gas life.

The well H on account of its mouth being below the level of the water as maintained by hydrostatic pressure, and below the line of gas saturation will probably gush a mixture of water and gas, and will continue to gush water and gas until the line of gas saturation falls below the mouth of the well, and will then continue to flow water and gas until the gaseous water is exhausted from the formation. After the exhaustion of the gaseous water the well will continue to flow water.

The well M is below the level of the water as maintained by hydrostatic pressure, and below the line of gas saturation and has penetrated the fissure O, conse-



quently if the fissure O extends to a great depth the well M will draw a vast volume of gas from a subterranean ocean of water. On account of the natural gas coming from solution being large the water will be blown from the well in the shape of a spray. In the well for instance, near the apex of an anticline, the gas may take the exclusive possession of the well. This is owing to the fact that the gas passes through a porous formation with but little friction and repasses the entrance of the water, the flow of which is retarded by friction. Wells of this character frequently yield several million cubic feet of gas daily. This large flow continuing for a short time or for several years. When the line of gas saturation KL shown on the diagram, falls below the mouth of the well, the amount of gas will commence to decrease, and finally the well will quietly flow gas and water which may continue for many years.

In the present what are called exhausted gas fields, by the escape of the gas which supersaturated the water the line of gas saturation has been lowered from above the surface of the water, to or below the surface of the water as maintained by hydrostatic pressure, consequently gas has ceased to come out of its solution with water. If by artificial means the surface of the water is lowered below the line of gas saturation and kept lowered the wells will again yield gas. In other words; if the hydrostatic pressure is greater than the expanding pressure of the gas no gas will come out of the solution; or on the other hand, if the expanding pressure of the

gas is greater than the hydrostatic pressure gas will come out of the solution from the water.

There is more natural gas in the abandoned oil and gas fields of the Eastern and Middle states than has been taken from them. It is in solution with the water. In order to obtain this gas the water or part of the water will have to be brought to the surface, as is done in California.

Union Oil To Resume Dividends.

It is welcome news that comes from the Union Oil Company. In a signed statement John Garrigues, treasurer of the company, tells the stockholders that it is expected that dividend paying will be resumed early in 1916. This statement occurs in a special report of the operations of the company for the first six months of 1915. Regarding dividends this report has the following to say:

"The company has reached a condition where it is clearly in a safe position to resume dividends early in 1916 on a strictly moderate basis. It is the intention of the management, under the present world-wide unsettled conditions, to reserve a strong proportion of accumulated surplus as a precaution against any possible emergency and to provide a dividend reserve."

The report says further that whatever conditions may prevail the company is in position to increase its earnings indefinitely.

Doheny is Optimistic but Careful

That the new contracts recently entered into by the Mexican Petroleum Company mean much for the oil business of the Pacific Coast is recognized by all oil men, and with this they have to be satisfied without knowing with whom the contracts were made. In his annual report made to the directors and stockholders of the company President Doheny has the following to say about these contracts:

"For obvious reasons names of purchasers to whom the products of your wells is being sold and delivered may not be given. Neither is it wise as yet to divulge the names of parties with whom agreements have been made, as negotiations are under way looking to additional sales of petroleum.

"Contracts have been definitely closed with two large consumers for the sale of 7,500,000 barrels of oil. Both these contracts require the transportation of this oil by or through your companies.

"During April, 1915, negotiations which had been pending for nearly a year, ripened into a signed agreement with a number of gentlemen of high business standing who are well known internationally. The agreement provides for the formation of a company whose purpose is to purchase the oil of your companies and deliver it for consumption abroad. It is agreed that one half of the stock of this corporation, which is to be called the 'British Mexican Petroleum Company,' will be owned by the Mexican Petroleum Company, Ltd., and one-half by the gentlemen with whom the agreement has been made.

"The manufacturing plants and steamship lines in which these gentlemen are interested are now consumers of enormous quantities of coal. It has been arranged that four steamships now being built will be equipped for oil burning, and a large number of those now in use will, as rapidly as they can be withdrawn from service, be converted from coal to oil burners.

Our new associates, who own the patent rights for the construction of the most successful internal combustion engines for maritime uses, and who are interested in freight carrying vessels which ply on the seven seas have agreed to construct all their new boats as oil burners.

"As the arrangements now being made with our new associates will require the delivery of a large amount of oil at distant ports in the United States, Europe, South America and Canada, it is probable that a much larger tonnage than that above mentioned (the equivalent of twenty-five 10,000 ton tankers) will be required and will be actually in service carrying the production of your company's wells within a comparatively short time.

"The management, therefore, takes satisfaction in announcing that a coalition of interests has been formed between the representatives of the most influential fuel consuming maritime interests in the world, and your officials, representing the largest area of proven bonanza oil territory under one ownership and control which, subject to the intervention of unforeseen and insurmountable obstacles, should result in creating a market, not only for all of your company's production, but for the whole world's surplus production."

Evidently there is no question in Mr. Doheny's mind as to the wonderful future of the oil business, and in this thought he is but following out the natural reasoning of a strong mind which looks over the whole world as a field for exploitation of the products of the well. The future of the oil business is not dependent upon what any company, no matter what its magnitude, may do in the way of business. It is dependent upon the natural sequence of events in the industrial world which creates an unprecedented demand for oil to replace less modern methods.

Japan Worried Over Oil Accumulation.

According to the Japan Times of June 30, the oil market of that country is threatened with a large company's recession from the price convention with a resulting resumption of competition. The paper says that while the rumor is denied by all concerned the fact is too plain to be doubted that all Japanese interests are worried over the steady accumulation of stocks. The paper says:

"The progress in Japan may be demonstrated, among other things, by the fact that during the first half of this year the Nippon Oil Co., the biggest of the Japanese oil companies, got 780,000 koku (37,174,800 gallons) or upwards against 1,140,000 koku (54,332,400 gallons) for the whole of last year, or an increase of over 30 per cent. The yield of other Japanese companies this year invariably shows a gain of 20 to 30 per cent over last year. With this progress the import of foreign oil has fallen off year by year. The progress of Japan's oil industry, therefore, is a great menace to the foreign interests concerned. The import this year has been 13,330,753 gallons, valued at 3,033,008 yen (\$1,495,498), a drop from last year of 858,569 gallons, valued at 376,694 yen (\$187,594.)

"In these circumstances the maintenance of the convention must be a source of vexation to both foreign

and domestic parties. The increased sale of cheaper light oil coupled with the usual decline of demand in summer has tended to curtail the sale of their goods to no small degree lately, but dealers are forbidden to meet the situation by reducing prices. Therefore dealers have been greatly distressed and have urged the Japanese companies to allow some latitude in the quotations."

Gasoline Export Conditions Better

The Petroleum Review, of London, England, thinks the gasoline supply has been solved, and notes that quite a change has taken place in the United States in regard to available quantities since the sudden decline of the Pennsylvania region some years ago. It says:—

The world wide demand for motor spirit was then commencing to be an important factor in international trade, and for a time the states found it impossible to cater to an extent it would have liked in his new business, for its chief source of supply showed distinct signs of decline. But since then new and prolific regions have been opened up, and the utilization of oil well gases for the purpose of manufacturing motor spirit has materially assisted to swell the quantities available for export, until today the state finds itself in the fortunate position of not only being able to satisfy a very large home trade, but of meeting the ever-increasing foreign demand for motor spirit.

We are reminded of these facts by the publication of the motor spirit exports from the port of New York during the nine months of the fiscal year, which show that over 146,000,000 gallons of spirit have been sent abroad since June, 1914, until the end of March, a figure 40 p. c. greater than during the same period of 1913-1914, while they are over 70,000,000 gallons ahead of the exports of two years ago. France and England alone account for the increased exports.

Seaboard is too Secretive

California Derrick has but one ideal—the betterment of the oil situation on the Pacific Coast. By betterment of the situation is meant not only the condition of the producer but of the stockholders of oil companies as well.

The Derrick's position in this matter, as well as its position as an authority is so well recognized by its readers that scarce a week passes without bringing some letter of inquiry regarding some company or oil stock.

Notwithstanding the fact that the Derrick has numerous sources of information it has always been the policy of the paper first to ask the officials of the company inquired about, and, then, failing a satisfactory reply, to give their inquirer an answer based on what is learned from outside sources.

In the courts when a man refuses to answer, taking refuge behind his statutory right, it is generally conceded that his answer would tend to incriminate him. When the Derrick makes a legitimate and courteous inquiry into the affairs of a company and is denied an answer on the grounds that there is "nothing to give out," it is but natural that we apply the same rule.

A case in point is the Seaboard Oil and Transit Company. The Derrick has received a number of letters from stockholders of this company, asking about its affairs, and saying they could get no satisfaction from the officers of the company. Some even saying that they could not learn the address of the main office.

In response to these legitimate inquiries, and in compliance with its duty to its readers, the Derrick wrote to the Seaboard Oil and Transit Company, explaining the situation, and asking for information, stating explicitly that it was not to be used for publication but to be transmitted to its inquirers.

Evidently the men at the helm of the affairs of the Seaboard are not in position to be open with the men whose money made the company possible—in fact it looks as if they are too secretive for their own good.

They accorded the Derrick a most ambiguous answer, that might be interpreted to mean anything or nothing, and closed their communication with the following paragraph:

"If your inquiries are from our stockholders, and they undoubtedly are, we would suggest that you advise them to communicate direct with this office for any particular information they may desire, which is not contained in our general reports."

In other words, "Mind your own business and let us alone."

That would be all right were it not for the fact that our inquirers, and they are stockholders in the Seaboard, complain that they receive no consideration when they write to the company, and they further complain that the general reports are too "general."

The trouble with the Seaboard officials, and it is the trouble with too many oil companies, is that they take it for granted that the stockholders have no rights that the officers are bound to respect. It is the belief of the Derrick that much of the trouble experienced by oil companies would not occur if a progressive spirit and a spirit of fairness to the stockholders were shown, and those who have a right to know were taken into the confidence of those in charge of the company's affairs.

What the stockholders of the Seaboard, as well as of all other companies, have a right to know is the true state of affairs, and the advice of the Derrick is that if the Seaboard, or any other company whose affairs seem to be tangled, refuses to give freely the information desired and to which the stockholder has a right, or if it appears that something is being hidden which may account for the bad condition of the company, as a minority stockholder demand—through the courts if necessary—that you be placed in possession of all the facts concerning the management of the company's affairs.

New York Oil Sands Good.

The impetus given to petroleum developments in southwestern New York by the advancing market of 1913 continued through the early part of 1914 and is reflected in the final statistics of the State's production, which record an output of 938,974 barrels for the year, according to a statement by J. D. Northrup, made public by the United States Geological Survey. Although this quantity shows a slight decline from the 984,191 barrels credited to the state in 1913, it represents an increase of 7.2 per cent over the 1912 production and illustrates clearly the remarkable productive capacity of the Allegheny and Bradford oil sands and their ability to respond to intensive development.

This area, which represents the northern termination of the broad oil-yielding belt of the Allegheny plateau region, has furnished a commercial output of petroleum since 1879. The productive sands, which lie near the base of the Devonian system, are reached at relatively shallow depths a condition which renders their exploitation profitable despite the low average yield per well.

The yearly average price per barrel of petroleum at the wells in 1914 was \$1.875, compared with \$2.409 in 1913, \$1.604 in 1912, and \$1.311 in 1911. The total value

of the state's production in 1914 amounted to \$1,760,868, a sum less by \$523,439 than the value of the previous year's production but greater than the value of any other year's production since 1909.

In the Allegheny district, which lies wholly within New York, 267 wells were completed during the year, of which 215 or 80 per cent, yielded an average initial daily production of 2.07 barrels each. Thirty-five producing gas wells were also drilled.

United States a Rich Nation.

The Bureau of the Census at Washington reports the wealth of the U. S. to be \$187,739,000,000. This means \$1965 for every man, woman and child in this country. The estimate is for 1912.

In less than two-thirds of a century, from 1850 to 1912, the total wealth of the nation, excluding tax-exempt real estate, increased from \$7,136,000,000, or \$308 per capita, to \$175,426,000,000, or \$1836 per capita, the percentages of increase being 2358 for the total and 496 for the per capita amounts. In other words, the wealth of the nation as a whole is nearly 25 times as great as it was in 1850, while that of individual is about six times as great.

Oil Shipments from Mexico.

The shipments of crude oil from Tampico, Mexico, to United States ports during June totaled 864,208 barrels against 684,824 during May. Notwithstanding this increase shipments were not as heavy as during June, 1913, (1,104,844 barrels) or June, 1914 (1,168,765 barrels.) The development of the Tampico district is still seriously interfered with by the revolutionary disturbances.

Looks Like Treason

Conditions at Bayonne, N. J., mean much more than a labor war. The nation is facing a possible crisis brought about by the European conflict, and it is this possibility that has stirred the employees of the Standard Oil Company to strike, because they think they can force a settlement their way, no matter how unjust it may be to the company by taking advantage of the Nation's danger. To the outside mind this stand is little short of treason, and should be so treated.

Lack of Ships Costs Contract.

Because China has no merchant marine, and because the United States is rather short on this most useful adjunct to commerce, the Union Oil Company is reported as having been compelled to cancel a big contract for kerosene that had been made with Chinese buyers. The contract called for delivery to be made at San Francisco on board these ships that were to come from China, but the ships could not be obtained and the Union lost a big sale.

Changes From Mining to Oil.

One of the old time mining camps of California that has been made historical in song and story is Knight's Landing, the scene of the first gold excitement in the state. Its glory waned and vanished and for many years the old camp has been somnolent with the exception of such times as a passing auto party might stop long enough to refresh the inner man. Now all this bids fair to be changed again to a new life, for oil has been discovered on the old Binder ranch, now owned by Mrs. M. Patterson. A few weeks ago she ordered a well dug on the ranch and at a depth of fifteen feet a stratum was struck that oozed oil. Samples were sent to the University of California where the oil was tested. Mrs. Patterson was told that she had better drill for oil.

A New Oil Industry.

Among the opportunities presented to American refiners of crude petroleum, in 1914, was that of replacing certain pharmaceutical preparations, imports of which were abruptly terminated at the breaking out of the European war, by similar products of domestic origin. One product of this type which attracted the attention of American refiners was liquid petrolatum, a medicinal oil whose use as a vehicle for protractable sprays in nose and throat work, but more especially for internal administration as an efficient laxative, has attained considerable popularity in this country in the last two or three years.

Russia has supplied this medicinal oil for a number of years, but when it was found that the supply came from this country and was stopped by the war American refiners at once set to work to replace it with a domestic product, and now at least ten sources of this oil have been developed.

Oil Burners For Japanese Navy.

Continued broadening of the scope of fuel oil is noticeable in reports coming from all parts of the world, all of which means increased demand for crude oil and increased ship building. According to best information fuel oil is going to replace coal in the Japanese navy in the not distant future.

Among recent visitors to the Oklahoma oil fields was Lieutenant Commander Yusuke Miyamoto, naval attaché of the Japanese Embassy at Washington. He made a close investigation of that field and it is said he will later come to California for the purpose of extending his investigations. He admitted that his object was to study the fuel oil situation for his government. As Japan is a heavy oil producer that country is in good position to emulate Great Britain in converting its naval vessels to oil burners.

Nippon Gets Big Gusher

According to the Petroleum Times, of Tokyo, Japan, May was a lucky month for the Nippon Oil Company. The following report appears in the English columns of that paper:

The Nippon Oil Co. struck another gusher on May 24th on the same lease in Kurokawa where the 10,000 barrel gusher was brought in exactly a year ago. The well No. 17 was completed with a rotary at 1396 feet on May 21st. On washing out the hole, oil commenced to flow, on the morning of the 24th. The well was soon put under control and the oil was made to flow through a 4-inch pipe into a steel tank, located 3600 feet from the rig. According to the gage taken in the tank, the production was about 2000 barrels for the first 24 hours with pressure of 50 pounds at the well. The oil is of slightly higher gravity than that from its big sister, being 22 deg. Be. The production has since improved, the present daily production being nearly 3000 barrels. The well is located about 2500 feet north of No. 5, the big gusher of last year, on the same anticlinal. This fact conclusively proves that the field extends farther north to the adjoining lease which is also under the control of the Nippon.

There was quite a bit of excitement in the Nippon's Nishiyama Camp on the morning of May 28th, when three wells located on different sections of the field commenced to flow all at once. The wells are No. 16 Miyagawa, No. 21 Iino and No. 13 Nagamine. All were started with rotary and drilled into sand with cable tools. Daily production from three wells amounts to about 500 barrels of very high grade oil, the gravity ranging from 41 to 46 deg. Be.

Patents Recently Granted.

The following recently granted patents of interest to the oil trade are reported expressly for The California Derrick by Joseph M. Nesbit, patent attorney, Park Building, Pittsburgh, Pa., from whom printed copies may be procured for 15 cents each.

Apparatus for refining oil, W. C. McElheny, Pittsburgh, 1,142,826.

Controlling plug for gasoline filters, F. A. Sutherland, Springfield, Me., 1,142,992.

Derrick, Henry Auchin, Emporium, Pa., 1,143,019.

Rotary boring drills (4), H. R. Hughes, Houston, Tex., assignor to Sharp-Hughes Tool Co., same place, 1,143,271 to 1,143,274.

Gripping device for well boring apparatus, G. S. Myers, Electric, Tex., 1,143,430.

Underreamer, F. A. Haugh, Independence, Kas., 1,144,195.

Process and apparatus for distilling petroleum, J. W. Van Dyck and W. M. Irish, Philadelphia, assignors to The Atlantic Refining Co., 1,143,466.

Apparatus for drying oils, W. P. Bending, Palo Alto, Cal., 1,144,522.

Head for well casings, W. B. Wigle, Fullerton, Cal., 1,144,646.

Drill jar, E. L. Cleveland, West Chicago, Ill., 1,144,814.

Bracing for well drilling engines, E. E. Greve, Pittsburgh, assignor to Oil Well Supply Co., same place, 1,144,837.

In the Field in Hot Weather

An open confession is good for the soul. The Editor of the Derrick has a confession to make. He defied the heat and took a trip through the Kern oil fields during the last week of July, thinking he could learn something of the oil situation down there.

What he learned was that July and August is no time to visit the oil fields for either business or pleasure. Men are not in the best of humor when the thermometer registers above 100 in the shade all day long, and if there is anything that will make a pessimist out of an oil man it is to know that he has to stay right there while everybody else has gone to the Exposition and is where it is so cool than an overcoat is a necessity after dark.

Naturally some things were learned, the main one being the fact that everybody in the oil business down in the southern part of the state knows that better times are coming and they also know that this knowledge is not helping them a little bit right now when they need something more than a feeling such as that expressed by the poor man who told his horse to "live and it should have grass in the Spring."

There is a superabundance of oil above ground in California. Everybody knew that all the time. Many oil wells have shut down. Everybody knew that as well. Many men have been let out in the oilfields. That, also, was well known.

But this is what everybody has not known, or at least if they have they have not been telling it. The stocks of oil above ground are being depleted. There has come an increased demand for California oil. Several shiploads of oil have been chartered for England. Two shiploads went through the Golden Gate during the first week in August. Well owners are getting their rigs in readiness for a quick resumption of work in many parts of the field. The Standard Oil Company has contracted with the Union Iron Works of San Francisco for a big tanker costing \$1,000,000. Doheny has made contracts over in Europe that will necessitate a large amount of California oil to enable him to fill, for it is authoritatively reported that his Mexican wells will not supply sufficient to cover the demand.

Bad Methods Make Bad Business.

Two years ago more than three hundred oil companies were producing in California. Just how many there are now is a problem the Derrick is trying to solve. In order to arrive at an accurate knowledge of the condition of the oil business of the state the Derrick sent our requests for information to every company that was producing in 1913. As it sent prepaid return cards, and as the information sought was legitimate and public there was no reason for not expecting immediate replies.

It is a remarkable fact that of the replies received up to the time of going to press nearly 25 per cent of the companies so far heard from have ceased business. A further remarkable fact in connection with this inquiry is the lack of response from small companies. The information is not secret and is desired for the perfection of our statistical files.

Naturally the big companies, the companies who do business according to correct business methods—were the first to reply. But many companies, and as a rule

All that sounds good for it is optimistic and is based on actual fact. There is no guess work about this sort of optimism. There is not an oil man in the country that fails to realize that the present depressed condition of oil cannot continue much longer, and while the oil men of Los Angeles, Bakersfield, Kern, Maricopa, Fowler and Taft may growl and curse the oppression that is holding them down, away back in the rear of their heads they know that it will not be many weeks before there will come such a demand for oil as will start every well to pumping and every company to getting its rigs at work on new ones.

The machinery manufacturers are complaining in Los Angeles, one big company telling the Editor that times were so bad it had to cut down its telephones to save a few dollars, but at the same time all these companies are getting ready for a big business they know is sure to come soon.

Over in Bakersfield the refiners are howling about the reduced price of gasoline. They, or course, blame it all on the big companies which have cut the prices. They do not realize that there is so little demand for gasoline just at present that the cut had to come if the companies producing wanted to continue in business. Neither did they realize that improved methods of making gasoline have brought about a revolution in producing cost that would make a continuance of high prices a crime.

This is an age of progress, and the sooner the oil men, producers, refiners, shippers, machinery manufacturers and all others interested, recognize that fact and the sooner they all get aboard the wagon of Progress the better it is going to be for them and for the business in general. The man who sits back and howls may impede things for a while, but in the end he will be left far in the rear of the procession and his howls will simply afford amusement for those who have the energy and progressiveness to keep up with the trend of the times.

"The man that is worth while is the man who can smile when everything goes dead wrong."

it is those which are complaining the loudest about bad times, failed to respond at all. The natural inference is that the slack business methods which caused a failure to reply to the Derrick's inquiry are the same slack methods which have caused bad business for the complaining companies.

America Builds Ships for Europe.

What the oil business is doing to shipbuilding is shown in the recent order placed by the Royal Dutch Shell combine with a ship building concern at Wilmington, Del., for an 8400 ton tanker. There is no reason why the ship builders of the Pacific Coast should not get some of this big business that is going on. The California Derrick reaches many of these big concerns and your advertisement placed before the right people at the right time.

The Galena Signal Oil Company has begun work on a new export plant at Elizabeth, N. J.

Will Work on Coal Statistics.

Mr C. E. Leshner, associate geologist of the land-classification board of the United States Geological Survey, has been assigned by the Director of the Survey to take charge of the work of compiling the statistics of coal production published in the annual volume "Mineral Resources." This work has heretofore been directly under Edward W. Parker, whose resignation from the Geological Survey is effective.

Louisiana Comes to the Front

The recent discovery of a gusher territory at Critchton, Louisiana, has placed that state ahead of Illinois as a producer and almost even with Pennsylvania and West Virginia combined. The wells of the state brought up the production last week to 50,000 barrels, of which amount 3,500 barrels is refinable oil. The result of the discoveries at Critchton is shown in hundreds of wildcat wells driven in all of the northern part of Louisiana.

Predicts Oil in British Columbia

W. H. Waddell, field manager of the Canadian Pacific Oil Co., and purchasing agent for the Pitt Meadows Oil Works, Ltd., has recently returned to Taft, Cal., from a visit to British Columbia, where he went to examine oil possibilities on the coast near Vancouver and New Westminster. In conversation with friends he expressed himself as well pleased with the outlook, and predicted an opening of oil at a depth of 2,000 feet in the wells now being drilled by the Pitt Meadows and the Port Haney Oil Companies.

Sproule Sets Rumor at Rest.

President William Sproule of the Associated Oil Company has felt it necessary to make a statement regarding the persistent rumors to the effect that the Associated Oil Company would be a party to the merger having the Independent Producers as its nucleus. President Sproule says:

"The Associated Oil Company is not in any way mixed up with that scheme or any other. It is pursuing its own business definitely and specifically. It is fully financed, has ample cash and other resources, and is not for sale."

"Rockefeller of Japan" Is Here.

One of the most interesting characters of the financial world of Japan is S. Asano, who, owing to his large petroleum interests, has been called "the Rockefeller of Japan." Mr. Asano is president of the Japanese Trans-Pacific Steamship Company, the head of a number of large manufacturing establishments in Japan and is the chief of the big Japanese oil interests.

Mr. Asano has been in California for some time and has been on a tour of inspection through the oil fields in which he has shown intense interest. Like other big men he listens a great deal and has little to say on what he is here for. He took the trouble to deny the published report that his line of steamers would make San Pedro a port of call.

Sespe Well Objects to Cleaning

Objecting to being cleaned out possibly on the same plea that the small boy objects to having his face washed, while being cleaned out preparatory to being dynamited, the Cosmopolitan's 3600 foot well in upper Little Sespe Canyon broke loose and threw oil for

a little while over the derrick, then quit. The well produced, when operated, about two barrels daily average of 33 gravity petroleum, not enough to justify work with this oil worth only 70 cents, the location being one of the most inaccessible in the state. For a year and a half or thereabouts it had not been operated until the recent move to reopen the same resulted in the above blowout.

The casing has now been pulled and the well will be shot at once with dynamite in the hope that thus it will be made to flow. It is the deepest well in that region.

Calls Meetings of Oil Men.

R. P. McLaughlin, chief of the Petroleum Department of the State Mining Bureau, has adopted the excellent plan of exchanging ideas with the practical men of the fields and to that end has arranged a series of meetings to be held throughout the oil country of California. Superintendents are urged to be present in order to get suggestions as to the best manner of making the new water infiltration law work satisfactorily. Definite places for the meetings have not yet been secured, but the dates have been fixed as follows:

Coalinga, August 23; Bakersfield, August 25; Taft, August 27; Los Angeles, August 28; Santa Paula, August 30; Santa Maria, September 1; and San Francisco, September 3.

U. S. Wins Big Oil Tract.

Judge Robert S. Bean, of the United States District Court, sitting in Los Angeles, handed down a decree on August 9, restoring more than 6100 acres of oil land in Kern county to public domain.

The complaint was filed five years ago by the Government against the Southern Pacific Company.

The suit was known as the Elk Hill controversy, the land in question being situated between the McKittrick and Mariposa oil fields, in the Elk hills.

The patent was issued to the Southern Pacific Company December 12, 1914. Judge Bean orders this patent canceled and also orders declared null and void a trust deed in favor of the Central Trust Company of New York, dated September 13, 1893; a supplemental deed to the same corporation of August 18, 1898; a trust deed of the Equitable Trust Company of New York of January 3, 1905 and another to Homer S. King and James K. Wilson, surviving trustees of a group in whose favor a deed was executed April 1, 1875.

W. S. Porter Dies of Apoplexy.

William Stirling Porter, vice-president and general manager of the Associated Oil Company, died at Mount Zion Hospital in San Francisco, August 9. His wife and son, Hugh, were at the bedside when the end came.

While in the office of his friend, Judge Robert S. Lovett, in New York, six years ago, he was stricken with apoplexy. While the attack was thought to be slight and he apparently recovered, it recurred. For the past three years he had been in ill-health.

Porter was 49 years old and during his comparatively brief business career had traveled far in the financial and industrial world. He had already built up a large estate and was reputed to be one of the wealthiest and most successful of the younger business men in California. Besides his executive position with the Associated Oil Company he was vice president of the Amalgamated Oil Company and associated in the directorate of half a dozen minor oil concerns. He was a close friend of the late E. H. Harriman.

California Derrick

The Oil Authority of the Pacific Coast

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

Just Clear Confiscation.

It appears that the United States Government is no respecter of property rights when it wants anything. Just by an "ipse dixit" of a high official private property is sequestered and the parties who imagined themselves to be owners find themselves without either property or redress. A case in point is in the recent decision of the government to take over the lands of the Oklahoma Osage leases. The oil men of that district not only lose their leases but also all the money expended in machinery, engines, pipe, etc. It is a piece of high handed confiscation, even if the GOVERNMENT is back of it.

Lost, Strayed or Stolen.

What has become of the Jewel Oil Company, formerly with headquarters in San Jose, Cal.?

The Derrick is in receipt of the following letter from Glace Bay, Nova Scotia, Canada, and is unable to answer it because it can do no better than our correspondent in getting an answer to a letter sent asking for information. The letter reads as follows:

"Editor of the Derrick, San Francisco, Cal.

"DEAR SIR:—Could you inform me of the whereabouts of the Jewel Oil Company, as I have written several letters to them at San Jose, Cal., and received no reply. The last I heard from them was when they assessed me,—which I paid. Since then they have gone into oblivion. Kindly let me know if they are dead or 'gone out of business.' "

This is a sample of the letters that constantly come to the Derrick, and it speaks ill for those who organize oil companies and then leave their investors without complete information regarding the company affairs. Simple honesty would at least give inquiring stockholders the knowledge that their money was lost.

According to the 1914 report of the State Mineralogist of California the Jewel Oil Company is credited with nine producing wells in the Kern field. Since the company fails to answer letters the only suggestion we have to make our correspondent is start an investiga-

tion and find out what has been done with the money paid on the assessment and why it is necessary to hide the affairs of the company from its stockholders.

Loquacity Sometimes Backfires.

California oil producers are elated over the promise held out in the annual report of President Doheny of the Mexican Petroleum Company, who says that he has closed contracts with responsible people which call for the world's oil surplus.

The great merit of Mr. Doheny's statement lies in the fact that he talks after the accomplishment of the fact.

It is hoped and believed that the efforts of Mr. Doheny will not end in a fiasco similar to that which marked the termination of the widely proclaimed alliance between the General Petroleum Company and English capital represented by Andrew Wier. Had Captain Barneson and Mr. De Saba been more cautious they would not now be regretting a loquacity that redounds neither to their credit nor benefit, a condition that evidently does not confront Mr. Doheny.

You Can't Always Tell

Not every glowing circular that comes through the mails bears the stamp of approval from the powers that be. You can't always tell whether the author of the circular has the right to use names, and for this reason Commissioner of Corporations of California, Carnahan has seen fit to send out a circular anent a new oil and gas company that has been foisted on an unsuspecting public by F. Zitt, who signs himself "president and general manager" of the Little Lake Oil and Gas Company, of Willits, California.

Zitt is enterprising, to say the least, and in order to give weight to his pretensions he not only prints on his circular "approved by the Blue Sky Commission," but he also attaches the name of the Bank of Willits as treasurer.

Now comes the State Commissioner of Corporations and denies that Zitt has any right to use that body's name, and the Bank of Willits has written to the department saying its name was used without its knowledge and without authority.

If the Corporations Department of the state of California is for the protection of the innocent investor would it not be well for it to make an object lesson of Mr. Zitt?

Improved Conditions Felt.

The Derrick has been consistent in its belief that improved conditions in the oil field situation were close at hand, and that it would be but a short time until a wave of big business would be felt all over California. As an evidence of this improvement it is but necessary to note the recent report of the Pierce Oil Corporation. In his recent annual report the president of the company predicted an early improvement in business, and now the report of the company for May shows that he knew what he was talking about. Exclusive of Mexican business the combined profits of the Pierce Oil Corporation and the Pierce-Fordyce Oil Association, after all deductions for interest, amounted to \$75,000, indicating profits for the year of \$900,000 for the common stockholders regardless of the earnings in Mexico.

A party of thirty nine of the world's most prominent geologists are visiting the Coalinga region and are being entertained by the oil men down there. They are under the chaperonage of Ralph Arnold.

"They Who Take Up the Sword," etc.

According to the records of the Secretary of State of California, two companies have filed articles of incorporation to transact an oil business in the state. The first of these is known as "The Shell Company of California, Inc." capitalized at \$4,000,000, and which is simply a change of name to absorb the American Gasoline Company. The other is "The Shell Company of California" with a capitalization of \$35,000,000.

The Derrick is always glad to welcome any legitimate enterprise in the oil industry and in this spirit welcomes the Shell people. But the Derrick cannot see the necessity of any company starting its career in California with a "declaration of war." The daily press of San Francisco credits the Shell companies mentioned above with an endeavor "to wrest the gasoline business of the state from the Standard Oil Company," and with the avowed purpose to "fight the Standard Oil."

The Derrick holds no brief for the Standard Oil Company. We believe that corporation perfectly capable and ready to resist any uncalled for and offensive attack. The Derrick, however, fails to see the necessity of a blatant trump of battle to inaugurate the business of a big concern. There is ample room in California for even more big companies than now exist, and if the Shell Company, or any other company can enter the field and get business away from the Standard by legitimate means the Derrick will be pleased with the new vitality put in the industry.

The Derrick is not in position to know whether the gage of battle so abruptly thrown down is a fact or simply the imagination of some reporter who desired to add spice to his story, but the fact that the Shell Company has entered no disclaimer indicates that it, at least, acquiesces in the thought.

It might be well for those who govern the affairs of the Shell Company to remember the Biblical injunction regarding those who take up the sword.

Fuel Oil May Save Our Ships

Rumor has been rife for some time past that the direct effect of the La Follett Seaman's Bill will be the retirement from business of the Pacific Mail Steamship Company, owing to the fact that it will be impossible to compete with foreign vessels, and especially with such foreign vessels as are manned by Asiatics.

One third of the present crews of the Pacific Mail Trans Pacific steamers are Asiatics, these men being firemen, stokers and coal passers. On the larger vessels 120 Chinese are so employed, and to replace them with Americans under the conditions of the new law would mean such increased expense as to make competition with foreign vessels impossible.

It would seem that the solution of this difficulty must lie in the conversion of the coal burning steamers into fuel oil burners. If this be done twenty can do the work now performed by 120 and though their wages would be four times as great as that now paid the Chinese, the total would be less than the present total. The cost of provisions will also be materially less, and there will be a large gain in revenue producing space for cargo can take the place of coal.

Certain stockholders of the General Petroleum Company object to the plan of having but one copy of the proposed plan made. The objection is of no interest to readers of the Derrick, for when the plan is formulated we shall print it in full and our readers will not need to have special copies mailed them.

Plenty of Work for Ship Builders.

Shipbuilders all over the world are looking forward to quite an accession of business consequent upon the use of oil and motor engines of the Diesel type, and also consequent upon the pressing demand for more tankers to carry the vast quantities of petroleum that must be shipped to the markets of the world.

Among the most important items of news in this connection is the statement in the annual report of Edward J. Doheny, president of the Mexican Petroleum Company that it will be necessary to build twenty-five tankers to carry the oil that has been contracted for.

The Standard Oil Company has just let a contract with the Union Iron Works of San Francisco for a new tanker with a capacity of 85,000 barrels, and which will cost \$1,000,000. Work of construction is to begin at once and when completed the vessel will be the largest of its kind owned by the Standard Oil Company. It is expected that the construction will require from fourteen to fifteen months time. The vessel will be 440 feet long with a 58-foot beam and a depth of 41 feet. It will be equipped with a shelter deck for package cargo.

In the report of the Royal Dutch Petroleum Company, it is stated that the motor boat Selene carried out a voyage around the world, through the Panama canal, traveling 27,000 sea miles in 140 working days. The small fuel consumption of the vessel enabled her to make the voyage from the Gulf of Mexico, via China to Singapore without once refilling her bunkers.

In San Francisco much interest is displayed by the new motor vessel, San Francisco, recently arrived after a continuous run from the other side of the Atlantic. The vessel, which is the first overseas carrier to be named for the City by the Golden Gate, is a motor ship, constructed by the Johnson Line for service between Scandinavia and California. She was fifty-one days from Stockholm and owing to her having come through the war zone she was taken by an English war vessel and her manifest examined at Stornoway, Scotland.

Owing to most of the British shipbuilders being busy with Admiralty work the completion of several high-powered Diesel-engined vessels which should now be in service, has been held back. Among these are the Llandia, built for the East Asiatic Company, and the Bostonian, a Leyland liner.

The Flower Motor Ship Company, Ltd., of London, has given something of a surprise to the advocates of the Diesel engine, according to "Shipping Illustrated." Two of the company's vessels now in operation, the Arnm and Arabis, built by a Newcastle firm have given so much trouble that the builders have agreed to take them over on their own account and assume all risks, paying the Flower Company 4 per cent per annum on installments which the owner had paid them. In commenting on these ships the chairman of the Flower company said that many valuable lessons had been learned from them. In the first place it is conclusively demonstrated that the waste heat from the engines can be utilized profitably in helping to raise steam in the donkey boilers. In the second place the consumption of oil in the main engines has surpassed the most sanguine anticipations of economy under that head. He is convinced that the two-cycle engines will be developed from this beginning to a thoroughly practical and useful limit.

The Standard Oil directors have ordered the payment of the regular quarterly dividend of \$2.50 a share. It is payable on September 15 to stockholders or record at the close of business August 20.

Oil Activities In June

Oil Field News and Statistics for California:

The standard oil Bulletin gives forth the following tabulated statement of developments and production in the California fields for June as follows:

FIELD	New Rigs	Drilling Completed During Month	Abandoned	Wells Producing	Production Per Day
Kern River		3		1,648	24,760
McKittrick				277	9,748
Midway - Sunset	17	48	8	1,388	106,490
Lost Hills-Belridge				248	11,891
Coalinga		9	2	803	38,955
Lompoc and Santa Maria		1		242	13,450
Ventura County and Newhall	33	17	1	439	2,824
Los Angeles and Salt Lake				681	5,630
Whittier-Fullerton	6	65	3	599	34,661
Summerland				102	136
Watsonville				5	75
Totals	31	152	14	6,432	248,620
Total crude oil stocks, June 30, 1915, 60,616,286 barrels.					
Total shipments from all fields, June, 1915, 7,662,629 barrels.					

During the six months, January 1, 1915 to June 30, 1915, the Kern River field showed a production of 3,581,820 barrels; McKittrick, 1,816,943 barrels; Midway-Sunset, 19,603,586; Lost Hills-Belridge, 2,184,132 barrels; Coalinga, 7,072,612 barrels; Lompoc and Santa Maria, 2,187,785 barrels; Ventura County and Newhall, 482,667 barrels; Los Angeles and Salt Lake, 6,621,715 barrels; Summerland, 26,495 barrels; Watsonville, 13,575 barrels.

The total rigs completed in all the fields was 126; wells completed, 118, and 18 wells abandoned. The total six month's production is given as 41,677,443 barrels with an average daily production of 246,837 barrels.

Total crude oil stocks, June 30, 1915, 60,616,286 barrels.

Total crude oil stocks, December 31, 1914, 58,526,274 barrels.

Increase during six months, 2,090,012 barrels.

Daily increase during six months, 11,547 barrels.

In commenting on the above the Bulletin states that the increase of 2467 barrels daily over May is fully offset by the decline in shut in production of from 12,000 to 16,000 barrels daily. The shipments are the highest recorded since the outbreak of the European war in August last.

Pipe Line Securities Attractive.

Pipe line securities have received so little consideration in the various stock markets of the country that no attention has been given to their steady improvement. One need but examine the yields of these securities to see that they make about as good an investment as is to be found, the returns being from 7 to 11 per cent. All danger of further dividend reductions seems to have been eliminated as the companies are declaring their third dividend for the year, at the rates which prevailed during the first half. With an increase of traffic growing steadily there is no reason why some of the companies may not earn sufficient margin above their dividend requirements to increase their dividends in the future.

Decline in Average Price of Stocks.

Taking 41 stocks from Gibson's list, it is shown that there has been a decline of nearly eight points in the average price of stocks from April 30 to May 11, and it is claimed that this was due partly if not largely to the torpedoing of the Lusitania and the danger of serious international complications, which danger has not yet been passed.

This great disaster, and its stock market effects, well illustrate the necessity for caution while Europe is aflame and the world's credits, commerce and industry

are deposited and deranged. The following shows the price of stocks at certain high and low points in the last six months:

January 21 (High point of 1914)	76.94
July 30 (Low point for 5 years)	62.45
December 12 (Opening prices since July)	64.33
December 14 (High price for December)	65.61
December 24 (Low price for 1914)	61.89
January 2, 1915	62.67
February 24 (Low price since 1908)	61.57
April 30 (High price since July, 1914)	73.31
May 14 (Low price since April 30)	65.41
June 23	71.41

On The Stock Exchange.

July showed so little change in oil stock values that one might take the report of either the San Francisco or the Los Angeles Exchange for any day in the month and see what was going on. Nearly all of the trading on both exchanges was informal and not noted in the quotations except as an indication of a little business.

On the Los Angeles Stock Exchange the only stocks dealt in were Western Union Oil, a few shares selling at 103 and 104; Rice Ranch sold at 101 and from that up to 105; Associated Oil sold informal at 37.50 and went up to 40, toward the end of the month; Union oil sold around 54.50 and 54.25; United Oil sold early in the month at 22 1/4, but at the close of the month it had dropped back to 20; quite a deal of trading was indulged in small lots of Enos Oil at 25-8. It is to be remarked that none of the deals recorded meant more than small lots of shares.

On the San Francisco Stock Exchange there was even less trading in oil stocks than at Los Angeles. McKittrick sold at 9, with but one sale during the month; Pacific Crude Oil was traded in at .65; Caribon went from .70 to .75; Amalgamated, ex-d, sold at 75.; a few shares of Monte Cristo passed along at .15.

Even on the big Exchange the listed oil stocks went without incident and the whole trend of trading seemed to be just to fill orders. It was rumored that the demand for Associated had some connection with a desire on the part of a big company, presumably the Shell, to get control, but his rumor was laughed at by the wise ones.

Committee Doing Good Work.

Mention was made in the July issue of the Derrick of the formation of a committee at Taft for the purpose of uniting the oil men in an effort to bring about some better condition relative to the government's action regarding oil lands. This committee has been working zealously and has brought into an agreement about thirty companies for the formation of the Western Oil Producers Association, the purpose of which is to wage a campaign for betterment of conditions. Additional members will be sought all over the state, and it is hoped that by the time Congress convenes this fall, the organization will be sufficiently strong to be able to make a good presentation of the case.

An entrance fee is charged and sufficient money is to be raised to send several representatives to Washington, whose duty it will be to remain there until they secure the desired legislation. This certainly is a movement that should interest every oil producer in California, and it is to be hoped that the nucleus formed at Taft will soon develop into an organization of such weight and power as to make itself felt in Washington.

What Is Behind Associated Boom?

There has been quite a flurry in Associated stock during the past two weeks, and many are the causes to which this is attributed. There has been persistent and sharp buying at ever sag and the rallies have always carried the stock a little higher, until it seems to have set 42 1-2 as the new value.

All discussion on the Stock Exchange has been guess-work, for no one seems to know who is behind the bull movement, or why the stock is being bought. Two natural theories are advanced. The most plausible is that there is a belief that the company's surplus is so large as to presage a little melon along about October. It is pointed out that the surplus is sufficient to warrant an increase of dividend from 3 per cent to 4 per cent per annum, and this, of course, might be the real cause. But it scarcely seems that an increase of 1 per cent per annum is a sufficient motive for the strong demand that has come into the exchange.

Whether some big company is behind the desire to get the stock is another problem that is agitating some of the onlookers. It is said that there is so much going on in the world looking to combines and consolidations that possibly this is part of the big game. It may be possible but such a theory is doubtful.

Whatever the cause the fact remains that during July some 4000 shares changed hands, and during the first week in August 1700 more were taken, and the price went from 39.75 low to a high of 42.50 on at least one sale, with a steady demand at 42.

Merger Approaches Completion.

With the assembling of a special meeting of those who have charge the proposed merger of the Independent Producers Agency with the Union Oil and possibly other companies, comes the climax of interests in what means much to California oil industry.

Several conferences have been held during the past two or three weeks, and these culminated in the report of the committee that has been at work on the appraisal of the various properties interested. This appraisal was jointly made by officials of the Union Oil Company and representatives of the Independent Producers Agency. They submitted reports on the properties of the Union Oil Company and more than 170 independent companies, and there are a few more still to be appraised.

The next step toward the proposed merger will be the submission of the appraisal to the various companies for their ratification. It is expected that there will be some dissatisfaction, for several of the properties that have not figured in production during the past year have not been appraised as high as their owners think they should be. It is believed, however that a great majority of the small producers will be satisfied with the treatment accorded them.

Many rumors are current as to the proposed merger and the appraisal, but most of these are simply the imaginings of people who cannot understand why a movement should be open, and always look for some ulterior motive back of an effort to better business. One of the most persistent rumors is that either the Standard or the Shell Company is back of the movement with the idea of stepping in at the proper time and taking over the whole works. When such an ending is suggested to those interested in the merger, however, there is instant and indignant denial.

Do You Want to Sell Your Stock?

Oil companies that desire to raise money, as well as owners of oil or mining stock who desire to dispose of it may learn how to solve their problem by writing to California Derrick. This paper has inaugurated a new plan of stock and bond selling and will be glad to enter into correspondence about it with all legitimate companies that desire to place their stock, or with owners of stock in legitimate companies. It is a plan that will cost nothing to look into, and very little to carry forward.

Standard Protects Itself.

The Standard Oil Company evidently believes in avoiding litigation, and consequently it has decided to take every precaution against becoming involved in government withdrawal litigation when making future contracts with producers. Producers whose titles to the lands they are occupying are in dispute, or even questioned, have been advised that the Standard Company will insist on being protected against possible suits for purchasing oil produced on disputed territory. Following this idea the company insists that all oil running through its lines from doubtful territory shall be placed in escrow unless arrangements are made with the Federal receiver for the disposition of the money.

This ruling of the Standard applies to extensive holdings in the Kern and Fresno county districts where many locators proved up their claims but failed to have them patented before the issuance of the first withdrawal order.

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Stock Exchange Saves the Day

One of the most interesting publications that has reached the desk of the California Derrick is a monograph written by H. G. S. Noble, President of the New York Stock Exchange, under the title of "The New York Stock Exchange in the Crisis of 1914."

Mr. Noble has presented to the American public one of the strongest defenses, if defense is necessary, that could possibly be presented of the necessity of such a body as the New York Stock Exchange. Many evils of finance have been laid at the door of the stock markets and the unthinking public is prone to believe that through the stock exchanges of the country have come most of our financial troubles.

Such an impression seems strange when we realize the fact that the very life of the stock exchange depends upon a stable business condition. President Noble has taken the pains to write a complete history of the wonderful work done by the New York Stock Exchange at a crisis such as the world has never before seen. After reciting the various incidents prior to the closing hour on July 31, 1914, and showing that they had taken every possible means of obtaining the ideas and opinions of financial men, he says in his monograph that it can be safely said that within twenty-four hours after the closing, those who opposed this action changed their opinions.

In summing up the condition of the closing of the Stock Exchange, he pays merited tribute to the men upon whom devolved that extraordinary duty, and this cannot be told in any better language than the following taken from his monograph:

"The frightful gravity of the situation which had arisen became clearer and more defined in people's minds a few days after the first of August than it was on the morning of July 31. European selling had been proceeding for some time before the outbreak of War and in the last few days before closing had been temporarily arrested by the prohibitive level of exchange and the risk of shipment at sea. The American public itself, however, was seized with panic on the evening of July 30th, and on the evening of July 31st brokers' offices were flooded with orders to sell securities for what they would bring and without reference to values. Had the market been permitted to open on that Friday morning the familiar Wall Street tradition of 'Black Friday' would have had a meaning more sinister than ever had been dreamed of before.

"In all previous American panics the foreign world markets were counted upon to come to the rescue and break the fall. Imports of gold, foreign loans, and foreign buying were safeguards which in past crises had been counted upon to prevent utter disaster. On this occasion our market stood by itself unaided; an unthinkable convulsion had seized the world; panic was spread; even the bargain hunter was chilled by the unprecedented conditions; there were practically no buyers. A half hour's session of the Exchange that morning would have brought on a complete collapse of prices; a general insolvency of brokerage houses would have forced the suspension of all business; the banks, holding millions of unsaleable collateral, would have become involved; many big institutions would have failed and a run on savings banks would have begun. It is idle to speculate upon what the final outcome might have been. Suffice it to say that these grave conse-

quences were prevented in the nick of time by the prompt and determined action of the Stock Exchange, and by that alone.

"Any decisive step whether right or wrong always finds its critics. There were a few people who criticised the exchange for closing too soon and thought the feeling of panic was increased by this action. These few were mostly converted from their opinions as the situation became clearer. There was a larger number who took the ground that the Exchange had not closed soon enough, and urged that had the step been taken a few days sooner a considerable decline in values would have been prevented. It is strange that the latter critics did not stop to reflect on how great an advantage it was, all through the anxious days of August, to have had the New York market liquidated as far as it could be without disaster, and the level of closing prices relatively low. How vastly greater would have been the task of safeguarding the situation in the face of declining prices in the 'New Street Market' had the closing prices on the Exchange been ten or fifteen points higher. The truth is that the Exchange was closed at the very best possible moment. The market was kept open as long as liquidation could safely be carried on (thus immensely diminishing the pressure to be withstood during the suspension) and it was closed at the very instant that a collapse was threatened.

"The above facts suggest some reflections with regard to the agitation for governmental interference with or control of the Exchange. The act of closing necessitates the prompt decision of men thoroughly familiar with the circumstances in a period of time actually measured by minutes. It had been necessary to reach government officials unfamiliar with details, convince them of the necessity of action, and overcome the invariable friction of public machinery, the financial world would have been prostrated before the first move had been made. If the Exchange had been an incorporated body, and had been closed in the face of the difference of opinion and possible conflict of interests that existed at the time, it would have been possible for a temporary injunction to have been brought against its management restraining its freedom to meet the emergency. Long before the merits of such an injunction could have been argued in court the harm would have been done, and ruin would have overtaken many innocent people. The full power of a group of individ-

Parkfield Property.

A 165-acre tract of prospective oil land in the Parkfield District, Monterey County, is offered for sale by Frank La Vine, 230 W. First St., Los Angeles, Calif. The property is close to drilling operations, and is a first class prospect. The big money comes in the discovery. Particulars furnished on request.

Oil Lands for Sale or Lease !

Tide-water, Santa Barbara County

A. S. COOPER, Santa Barbara, Calif.

nals thoroughly familiar with the conditions to act without delay or restraint prevented a calamity which can safely be described as national.

"It is a fact, which will probably never be appreciated outside of the immediate confines of Wall Street, that the Exchange was unexpectedly thrown into a position where the interests of the whole country were put in its hands, and that through the prompt and energetic action of the thirty-six men who faced the awful responsibility on July 31 financial America was saved. It is true that in saving the community they saved themselves, but so do the soldiers who win upon the battlefield, and in neither case is the obligations cancelled by the selfish consideration involved. When in future the perennial outcry against the Exchange is being fostered by those whose minds are exclusively occupied with the evils that are inseparable from every human institution, let us hope that once in a while some friendly voice may be raised to remind the world of July thirty-first, nineteen hundred and fourteen."

Judge Gary is Optimistic.

Judge Elbert H. Gary, whose name is synonymous with big business all over the land, was in San Francisco recently and in the course of his visit was the guest of honor at a luncheon given by the San Francisco Commercial Club. Judge Gary had many pertinent and interesting things to say, incidentally giving it as his belief that the European war would come to an end within the next two or three months. In the course of his address, which was listened to by nearly six hundred business men of San Francisco, Judge Gary had the following to say:

Much has transpired to make the business man despondent. The present condition is unnatural and deplorable. Investment has hesitated, and the European conflict has been paralyzing to many lines. There is great interest as to what will occur when the war is over. Probably the end is not immediately in sight but I believe that it is coming sooner than expected by many, including those who are actively engaged. The nations are approaching exhaustion and all are sick at heart. Peace will be secured at no distant day, and it will be honorable and lasting.

There will be provided, unquestionably a permanent, impartial and competent tribunal for the arbitration of all international differences, and the enforcement of the decrees of this tribunal if necessary by nations not affected. This end will be brought by pressure from the masses of the people. The people did not bring about this war and they will insist on measures to prevent any recurrence.

If I read the signs aright, we can look forward to better business. The United States now has the opportunity to become the leading commercial nation of the world.

In this advance California must have a part. There is no other section of the United States where such a great diversity of crops can be grown to advantage. Here is produced the pick of the orange crop and tremendous sugar and fruit crops, with a monopoly on the apricots. California can raise hay and grain and vegetables without limit. It has an abundance of mineral wealth and much of it is not yet developed.

The future is with you. You have an unrivalled location on the sea front. You have a superior accessibility to the markets of the Orient and Australia. Your manufacturing interests and industries should increase. You have an abundance of iron ore, and you should become smelters of iron and producers of steel, especially if crude oil can be used for smelting as now seems possible. Your universities rank high with the institutions of the world. You have climate, with every condition for health and comfort. No state in the Union has greater possibilities.

Tank Steamers Still Run

After due deliberation the Interstate Commerce Commission has vacated its order requiring the Associated Oil Company and the Southern Pacific Company to cease operation of tank steamers between California, Oregon, Washington and other points. A rehearing will be had at a date to be fixed and meanwhile the tank steamers will continue to run.

The Ventura Refining Company has selected Colton, Cal., for the site of a branch establishment. The company will expend \$10,000 for warehouse and tanks and \$1000 for a supply station. William Pemberton is to be manager.

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Standard
Oil
Company
(California)

CALIFORNIA CONCENTRATES

More than 4,000,000 barrels of oil are stored in the region south of the Tehachapi.

The Mexican Petroleum Company has ordered three new tank steamers, at a cost of \$2,250,000.

The Olinda Land Company has declared a dividend of one-half a cent a share on its 2,000,000 shares.

The new naval tanker, Kanawha, developed more speed in her trial trip than specifications required.

The Mascot Oil Company will do no more drilling on its Midway lease until conditions of market get better.

The total output of Petroleum in the United States during 1914 exceeded 290,000,000 barrels, breaking all records.

Miller & Lux are putting down a number of test wells on their lands lying between Madera and Berenda, California.

La Habra wells have been invaded by water and owners are energetic in their efforts to prevent it from endangering the flow.

British Columbia coal miners are protesting against the invasion of California Fuel Oil, and want a prohibitive tariff established.

The West Side Gas Company, of Kern, has filed an application with the California State Railroad Commission for authority to raise its rates.

The San Francisco Board of Harbor Commissioners awarded the contract for oil for the period of two years to the Shell Oil Company, at 58 cents a barrel.

The Pittsburg Pacific Oil Company has abandoned its second well at the east end of the La Habra valley. The formation is said to be the worst ever encountered.

Two years ago a well was drilled on the A. T. Currier ranch, near Walnut, Cal., and since then it has been abandoned. A big pump is now being installed to try it out.

A contract has been let by the Union Oil Company to the Union Iron Works of San Francisco for a new steamer, at a cost of \$1,000,000. It is to be completed next July.

The United Oil Company paid a dividend of one-half a cent a share and an extra dividend of one-quarter of a cent a share, on July 15. The last dividend was paid on April 15.

The Pacific Oil Products Company, has been incorporated at Phoenix, Ariz., with a capital stock of \$3,000,000. Incorporators are C. M. S. Stoddard, M. A. Pickett and F. J. Hess.

The Van Anda Oil Company started to develop property and make a new oil field in Little Sespe Canyon, Ventura county, but it quit before it began owing to financial difficulties.

Reports from Oklahoma are to the effect that the United States Government has contracted with the Osage Indians for the entire output of 56,000 acres of oil land, in case this country should be involved in war.

The Ferron Oil and Gas Company, of Phoenix, Ariz., has been incorporated with a capital stock of \$1,000,000. The incorporators are J. N. Perron, Ernest N. Mauts and George J. Dann.

The Standard Oil Company has brought in No. 3, within the city limits of Fullerton, Cal. It is a mile north of the business district. It came in gushing above the top of the derrick.

The Gate City Oil Company, at Maricopa, has been purchased by George H. Lowell, of the Northern Center Oil Companies. The twenty six acres will be operated as the Lowell Oil Company.

The Salome, Windy Hill, Salt Basin and Lake View Oil Companies in the Tonto Basin Oil Field, of Arizona, have combined to sink a test well on the property of the Salome, to determine values.

The Townsley Canyon Oil Company, of Los Angeles, has been incorporated with a capitalization of \$25,000. The incorporators are H. P. Oates, J. D. Coplin, William Reed, J. W. Porter and J. H. Borden.

Mexican Petroleum Company, Ltd., the Mexican Petroleum Company of California, and the Inasteca Petroleum Company announce a decrease in profits of \$1,512,313 for the year ending December 31, 1914.

Rates on oil from Pacific and Middle Western fields were found to be unreasonable by the Inter-State Commerce Commission, and a new rate of about 50 cents a ton on crude less than the old rate was established.

It is reported on what is considered good authority that the two big Panam Line steamers, Finland and Kroonland are to be converted into oil burners and are to get their fuel supplies from the California oil fields.

The Petroleum Transport Company, with authorized capital of \$3,000,000 has made application to the Corporation Department of California for permission to sell 3,000 shares at par \$100 for the construction of three oil tank steamers.

The Belridge Oil Company, operating in the North McKittrick Front has brought in its No. 2 well on section 35, 27-20, flowing an estimated 900 to 1000 barrels a day. The oil is forced over the top of the derrick and is flooding considerable territory. It tests 35 1-2 gravity.

Operations in the McKittrick and Belridge-Lost Hills districts during the half year ending June 30, 1915, show a production of 4,000,175 barrels. In the McKittrick district comparatively little development work has been done during this period. The Belridge-Lost Hills district reports the completion of eight new wells, while the number abandoned was four.

The Montebello Oil Company is determined to make a thorough test of the big mountain south of Santa Paula. A large force of men has been put to work and a rig has been set up on what is believed to be the top of a great oil dome that will prove to be a great producer. The Montebello Company acquired the property of the South Mountain Oil Company, consisting of 240 acres. There is a well down on the property 2200 feet and in this oil has been sufficiently developed to supply the company with fuel for the new well.

Unusually good progress is reported in the drilling of well No. 3 of the Fullerton Great West.

John Meehado, of Oak Park, near San Luis Obispo, has leased a portion of the Meehado ranch to A. L. Ellins, of Los Angeles who will develop the property for oil.

According to W. R. Robb, secretary of the Independent Oil Producers Agency, storage facilities will soon be provided in the San Joaquin Valley fields for 500,000 to 1,000,000 barrels of oil.

Oil Law Now Effective.

The new oil law passed at the last session of the California Legislature, went into effect on August 9. This law is the outcome of a constant demand for some sort of legislation to protect the industry ever since petroleum development became one of the greatest industries of the state. It has been found that the only way to eliminate many of the evils that beset the industry is through state laws. Water infiltration, which has caused so much trouble in many of the fields, is possibly the worst of all the evils to be overcome, and under the new regulation it is believed that much good will come.

The law provides stringent means of compelling operators to protect properly the oil sands from water, but the State Mining Bureau, under whose supervision the matter has been placed, announces that it will have recourse to coercion only after all efforts at cooperation fail.

Four geological engineers are provided by the law, and these will be stationed at Taft, Coalinga, Los Angeles and Santa Maria. R. P. McLoughlin, whose work in the Bureau of Mines has been along oil investigations, and to whom is due the most comprehensive oil report ever published, has been appointed to the position of State Oil and Gas Superintendent, and he will have the assistance of the four geologists who will be appointed as soon as a complete investigation of the situation has been had.

Before deciding upon any actual plan of campaign the bureau will make an exhaustive investigation of the situation so as to be in possession of all the facts on which to determine future activities. Meetings of oil men will be held in the various fields of which notice will be given, for the purpose of bringing about an exchange of views so that the needs of each section may be dealt with intelligently.

A New Oil Dryer.

William P. Bending, of Palo Alto, Cal., has patented a process for refining crude petroleum into high grade lubricating oil, which he claims is the only process that can change California oils into lubricants equalling the Eastern Paraffine oils. The process takes the crude distillate from the still and after a short acid treatment it is run into vats where it is neutralized and built up in viscosity, after which it is pumped over heating coils in a dryer. When the treatment is complete the oil is dry and sparkles like wine.

Improvement in Oil Situation.

While the small producer of oil is worrying over his daily bread there can be no question regarding the impending change for the better in conditions of the industry. One need but read the annual report of any of the big producing and marketing companies to see

that all are preparing for an enormous increase in business, and unless all signs fail the day is not far distant when there will be as keen a competition between these big companies for the small producers' supply of oil as there now is between them for the weak market.

According to President Edward L. Doheny, of the Mexican Petroleum Company he expects such an increased demand for oil by his one big company newly organized, as will take all of the surplus production of the world. This sounds big, but there is no question that petroleum, like electricity, is still in its infancy so far as its multiplicity of uses is concerned.

A. L. Weil, consul of the General Petroleum, is credited with saying that the remarkable improvement in the oil situation achieved during the first six months of 1915 has not been sufficiently emphasized. He says: "The important fact remains that through concerted action the heavy over-production of preceding years has been cut down to a figure that ceases to be a factor in the petroleum problem."

Another significant feature of the situation is the fact that the Standard Oil Company has entered into new contracts with producers which provide that all oil shall be handled on a daily run basis. This will place the independent selling companies in a position where they will have the advantage of any rise in price at any time. Deliveries will be made at prices current when the oil is received by the Standard Oil Company.

Union Oil Completes Pipe.

Completion of the sixteen mile pipe line from the Midway fields to McKittrick by the Union Oil Company is announced. This is an eight-inch pipe and with its completion the Union now has two eight inch pipe lines available for transportation of oil from Midway to tidewater at the company's loading wharves at San Luis Obispo. The two lines have a combined capacity of 55,000 barrels a day.

Oil Refinery For China.

According to advices received from Peking, China, rapid progress has been made in the prospecting work that is being carried on throughout the oil fields in Shansi province, and arrangements are now under way for the erection of a refinery. It is expected that the oil of this district will be put on the market in the northern provinces by the end of the present summer, and it is expected that within three years the sale will be pushed all over China.

Notice to all Oil Companies

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Practical Oil Geology

The old style "hit and miss" search for petroleum is no longer considered good business. The geologist has come to stay, and it is an unwise man who enters the oil field as prospector without the aid of a geologist. Just what geology tells about oil formations is shown in a book recently published by the McGraw-Hill Book Co., of 239 West 39th Street, New York, entitled "Practical Oil Geology." In this handbook Dorsey Hager has given us a clear, concise and practical work on the occurrence of oil and its extraction, and one need but glance at chapter headings to understand its real value to the oil man. Mr. Hager goes from the origin and physical and chemical properties of petroleum through all the structural geology to prospecting and drilling, closing with pointers for operators and drillers. One certainly gets his \$2 worth when buying this admirable book.

Asphalt-Base Oils Make Best Lubricants

Lieutenant G. S. Bryan, of the Naval Engineering Experiment Station, Annapolis, Maryland, in a paper published in the Journal of the American Society of Naval Engineers for February, 1915, says:—

"Oils made from asphalt-base crudes have shown themselves to be much better adapted to motor cylinders, as far as their carbon-forming proclivities are concerned, than are the paraffine-base Pennsylvania oils. The carbon formed from the latter is, as a rule, extremely hard and clings to the metal surfaces while that from the former is soft and can easily be wiped off any surface that it is deposited on. This would be expected from a consideration of the nature of the hydrocarbons composing the oil, and it has also been demonstrated in practice.

"The explanation lies in the fact that the paraffine-base oils are generally composed of the paraffine series of hydrocarbons, while the asphalt-base oils are composed mainly of the ethylene and naphthene series. One of the characteristics of the latter two series as compared with the paraffine series is their tendency to distill without decomposition. Consequently, no gum will be formed on the cylinder walls, and the carbon liberated will be mostly discharged with the exhaust gases."

Illinois Has Big Oil Producer.

Illinois held its own in 1914 as the third state in the Union in the production of petroleum, with a total of 21,919,749 barrels, according to the statement just made public by the United States Geological Survey, which compiled the statistics in cooperation with the Illinois State Geological Survey. This was a decline of 1,974,150 barrels compared with the output in 1913, but it indicates a notable improvement compared with the decline of 16.45 per cent of the previous year and tends to confirm the opinion that the state has passed the stage of rapid decline in the production of its present oil fields and has entered on a period of settled production with gradual decline, subject, however, to fluctuations resulting from the possible discovery of new pools.

The average price was \$1.16 a barrel, a price that compares favorably with the average of \$1.292 a barrel

in 1913 and is notably higher than the average of \$0.851 a barrel in 1912. The total value of the Illinois production in 1914 was \$25,426,179 at the wells, exceeding the value of the 1912 production, which was 6,500,000 barrels greater, by more than a million dollars.

Stocks of Illinois petroleum increased during the year from 8,243,421 to 13,563,743 barrels, 2,000,000 barrels less than at the end of 1912. The increase resulted to a great extent from the overstocking of refineries ordinarily handling Illinois petroleum with crudes from other states.

Field activity in Illinois in 1914 resulted in the completion of 1579 wells in 21 counties. Of these wells 1163, or nearly 74 per cent, yielded an average initial daily oil production of 33.75 barrels a well. Twenty-eight were gas wells.

The total number of wells recorded as having been drilled for oil in Illinois prior to January 1, 1915, is 24,566, of which 4,120, representing 12.3 per cent, were unsuccessful.

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Peace Hath Its Terrors

Two per cent of the world's shipping has been wiped out by the God of War who now reigns in Europe, and the world stands aghast.

One hundred per cent of America's trans-Pacific shipping has been driven from the seas by the administration at Washington and it excites so little comment as to lend credence to the belief that American minds have paraphrased an old English doctrine and now say "the party can do no wrong."

Captain Robert Dollar, than whom there is no better posted shipping man in the United States, has the following to say regarding shipping conditions of this country today:

"Our laws and regulations must be changed to correspond to those of foreign nations with whom we come in direct competition. The laws of Great Britain are preferable as, under them, more than half of the steam tonnage of the world is successfully operated. Therefore, it is fair to assume that the British regulations cannot be far wrong. Our laws and regulations require twenty different changes to make the operation of ships correspond to that of the British.

"The time has certainly arrived for some constructive legislation. In the last session of Congress sixteen bills were introduced to restrict and restrain operation of ships, and not a single bill to aid or assist us. We should have, I believe, a commission of shipping men, not politicians, to draft these laws, and to advise Congress, thereby preventing any future blunder like the Seamen's bill, the only result of which is to drive the last American ship from the ocean."

What a travesty on legislation. Sixteen bills to restrict operations of American ships and not one to help them.

It is the result of these sixteen bills that is now confronting American shippers, and especially those who use the port of San Francisco as their point of exportation. When those interested in the shipping of the Pacific objected to the passage of the La Follette Seamen's Bill stated that the effect of this bill would be an abolishment of the American Merchant Marine on the Pacific Ocean, the rabid advocates of unionism as represented by Andrew Furuseth, said that it was all a bluff and that no injury could possibly come to American shipping through this bill.

That it was no bluff is seen in the first fruits of the La Follette bill which is the sale of the Pacific Mail

Steamship Company's big liners to an Eastern concern and the giving over to the Japanese of the entire shipping business between the United States and all foreign countries bordering on the Pacific.

These five vessels have meant much to San Francisco, but they have meant more to the Nation. With the withdrawal of these vessels to the Oriental trade comes the withdrawal of the American flag from foreign ports. It means more than that. It means that the American foreigners. It is a well recognized fact that the Seamen's union of the Pacific is largely dominated by an element which has never even taken out American nat-shippers must now accept the terms of the foreign ship owners. It means that the American producer must be at the mercy of the foreign purchaser. It means that Japan now controls the Merchant Marine of the Pacific Ocean and she can do to this Nation what she has already done to China—refuse to carry her produce to foreign ports.

So far as the American seaman is concerned, instead of being benefitted by this bill, he has lost in this one company's withdrawal alone, more than \$600,000 a year in wages and foods. By the withdrawal of the Pacific Mail Steamships from business six thousand men have been thrown out of employment. From San Francisco there has been taken an annual expenditure of about \$6,000,000 for supplies.

The truckling subserviency of the administration to Labor Union domination in this instance is going to be a boomerang for the Labor Unions of the Pacific Coast because now the Japanese, against whom the most bitter contention of the Labor Unions have been leveled, will be supreme in the shipping interests of the Pacific Ocean, for with the exception of one American flag flying line, the Minnesota of the Great Northern line, no American ship will ply between the Pacific Coast of the United States and the Orient, and even this great vessel is scheduled soon to be transferred to the Atlantic, which will mean that the entire Oriental trade of the United States will be transported upon Japanese bottoms.

From the very beginning of this agitation the main fight against American shipping has been waged by un-American papers. The whole idea has been un-American and unbusiness like. It has resulted itself into a great problem which has to be met in one of two ways: Either American producers must pay an increased cost for transportation of their goods to foreign countries

or American shipping must go out of business, and it took a pur-blind administration, headed by a theorist to affect what has been a worse blow to this country than the war in Europe has been to the shipping of the world.

Nor is the withdrawal of the Pacific Mail Steamships from the Pacific trade the final phase of injury done to American business. Honolulu is within the American Coastwise shipping and with the withdrawal from the oriental trade of the Pacific Mail Steamship Company, comes the lessening of the opportunity of the people of the Hawaiian Islands to do business with their own country, and already a movement is on foot to repeal the Coast-wise shipping law.

This condition has been brought about because of the enormous congestion of passenger travel both to and from the island owing to an inadequate transportation between Hawaii and San Francisco since the big ships have been taken off the trade.

Between the Oceanic Steamship line and the Matson line there is some business between San Francisco and

Honolulu, but so great is the demand for steamships that it is impossible for these two lines to attend to all the business. The growth of Hawaiian business has been so great that the Matson company has developed its fleet until its steamers are among the finest that fly the American flag. If the antagonism to American shipping be carried to such an extreme that the complaint of the Hawaiian business men be listened to and a change made in our coast-wise steamship laws to such an extent that foreign steamers can carry passengers and freight between our United States ports and Honolulu, it will mean that the Matson line will also be driven away from these fields.

Now that the great damage has been done to American shipping through the passage of the La Follette Seamen's bill, it might be wise for American men interested in shipping and in foreign trade to begin at once a campaign to forestall any effort on the part of misguided and we might say traitorous fanatics to change out Coast-wise laws so that still further benefit would come to foreign shipping and still more disaster to that of America.

Crude Oil Prices Tend Upward

From April, 1914, to April, 1915, prices of crude oil fell steadily, and then remained at a standstill until about the middle of August, when there was an indication of a strengthening. This indication later materialized and there came a decided upward trend of prices Oklahoma crude showing the first effect with an increase of 10 cents a barrel, followed a few days later by another 5 cents in advance. Northern Texas oil advanced 10 cents in conjunction with the Oklahoma movement. It is given as the immediate cause of this advance that the flooding of the market by the Cushing had stopped with the rapid slump in production in that field. In March last, that phenomenal pool was yielding 300,000 barrels a day.

It is reported that many of the refineries of the mid-continent field are oversold on refined products and are refusing further contracts for immediate delivery, and will need full supplies of crude for many months to come.

An advance in Pennsylvania, Lima and Illinois oils is a natural consequence of the upward turn in the mid-continent fields, and reports show that eastern operators have been expecting higher prices for some weeks. That the upward tendency of prices of crude petroleum will continue for many months is the opinion of experienced operators. During 1913, when Pennsylvania sold up to \$2.50 and Oklahoma crude to \$1.05, production in the United States was 248,446,230 barrels, and consumption was 248,381,744 barrels. In other words the pipe line runs were always slightly behind refinery demands and prices had to be advanced to stimulate production.

In 1914, mainly as a result of the development of the Healdton and Cushing pools and a large increase of output in northern Texas and northern Louisiana, production increase was 17 per cent while the growth of consumption was but 7 per cent, causing an immediate

slump in price. This condition prevailed until the first quarter of 1915, when increased refinery demand with the advent of open weather revealed the fact that the North Texas and North Louisiana fields were not keeping up their output. For a time the gulf coast refineries were able to depend on Oklahoma for supplies, but when Cushing began to decline, the Panhandle and Gulf Coasts were advanced. Cushing continued to decline, and in the first week in August, Oklahoma crude advanced 15 cents. This did not tempt holders of stored oil and another advance of 5 cents was made.

It is reported from Cushing that the large stores of that district are being held for a raise to \$1 a barrel. The expectation that the price will reach this figure is based on the firm belief that our consumption for 1915 will amount to 275,000,000 barrels, while our present rate of production is just about holding that figure, with prospects of falling 50,000 barrels a day below it before the end of the year.

A consumption of 275,000,000 barrels a year calls for an output of 750,000 barrels a day, of which 270,000 barrels is being taken by California which supplies its own demand. This leaves 480,000 barrels a day consumption east of the Rockies. To supply this the estimated production of the midcontinent fields was but 500,000 barrels a day, and it is confidently predicted that before long this production will be at least 30,000 barrels a day under consumption. This will bring a demand for California oils, and taken with the fact that the foreign demand is steadily increasing, there is no reason to doubt the prediction that oil will soon reach the \$1 mark and even go higher.

This condition will continue and will stimulate production, bringing to life many of the now idle wells in California fields, and causing development of new fields where oil is believed to exist.

Easy Marks Live Far Away

California Derrick is in receipt of many letters from people, mostly women, who ask information regarding oil companies in which they have stock. All of them want to know where to find the offices of the companies, and all of them also want to know if the stock is worth anything.

It is significant of these inquirers that all of them live a long way from California, and the supposed scene of operation of the companies in which they have stock. It is also significant that in nearly every instance the companies in which they have stock bear names strangely similar to companies of good repute and in good standing.

Evidently at some period of oil inflation the East and Middle West was flooded with stock sharks who swindled unsuspecting people without regard for future results to themselves. Just how many of these unknown companies were promoted no one can ever tell, for there has been no check on them in the past. Possibly the new Corporations Law of California may prevent future operations of this character, but even that is no sure thing, for very few people outside of the state are aware of the provisions of this law, and if a shrewd swindler sees fit to foist a bogus company on the unsuspecting public there is no way to prevent it.

It is, of course, useless for California Derrick to give advice to the buyers or prospective buyers of these stocks, for it goes without saying that these victims are not readers of warnings, neither do they take advice. Their interest in the oil papers, as a rule, lies solely in the fact that through them they may get information regarding the companies in which they are interested. Advice given them is on a parity with lock-

ing the door after the horse is stolen, and is not half as valuable to the recipient as is the lesson learned through investing hard earned savings in some worthless stock because a slick-tongued salesman gave glowing pen pictures of the wonderful profits bound to come to all who invested in their particular stock.

A lady in Detroit, Michigan, writes to inquire about The Seaboard Oil and Transit Company, the Progress Oil Company, the Coalinga Crude Oil Company and the Kern Western Oil Company. She says she has a "large amount of stock" in these companies, and can hear nothing from them.

Last month California Derrick told what it could find out about the Seaboard. So far as the other companies are concerned we can find no trace of them, nor can we learn when or where they were organized. It is a sure thing that their stock is not worth much above the average price of cheap wall paper.

If these easy mark investors would give as much attention to inquiring about companies whose stock is offered them before they purchase, as they do after their money is gone it would save them a lot of worry and loss, while it would give them no more inconvenience. There is not an oil stock that is offered for sale that will not bear examining if it is worth anything at all, and neither is there any oil stock offered that is "going so fast that you are liable not to get any if you don't take it right away." That is the kind that most suckers buy--and never get rid of.

Oil stock is a commodity that is as easily investigated, if it be good, as is real estate. If it be bad all the investigation in the world will not make it worse, but it will make the investor's pocket book better.

Demand General Petroleum Sale

The fact that the plans being worked out by Captain John Barneson, Richard Mulcahy, A. G. Weil and others is not satisfactory to all of those interested in the fortunes of the General Petroleum Company, was evidenced in a suit brought early in August by Mrs. Julia Goldman, of Baltimore, Md., who seeks redemption with interest of ten \$1,000 bonds which she purchased some months ago, and which she declares she has not been able to procure, although she has made proper demands on the company.

The Mercantile Trust Company of San Francisco holds \$5,000,000 worth of bonds issued by the company and Mrs. Goldman seeks to force the trust company to foreclose and thereby throw the affairs of the General Petroleum Company into the Federal Court.

Mrs. Goldman's attorneys hint that other suits of similar import are liable to follow and this confirms the suspicions voiced by Richard Mulcahy who said regarding the suit:

"The suit is no surprise to me. We have been threatened with them for some time. I cannot see how it can affect or interrupt the reorganization plans now under way. Just what is back of the suit I do not know, but I imagine it has something to do with the antagonism of the Weir faction. They do not agree with our plans, but

just what they hope to gain by forcing a sale at this time I don't know."

The deposits of General Petroleum Company bonds and interim certificates with the Mercantile Trust Company, and promises of additional deposits justify the belief that the security holders wish the committee to act for them, but the committee believes that it is not justified in beginning radical action for its defense or for the protection of interested parties until the actual deposits of all the bonds and interim certificates have been made.

At the request of many of the New York, London and Pacific Coast security holders, the time for deposit has been extended to September 15, 1915, in order to allow many people who are on vacation or away from home, an opportunity of depositing and also because the committee has found it difficult to locate the owners of quite a number of the bonds.

The committee feels that it can bring about a settlement with Andrew Weir if given an opportunity to speak for all the bondholders and holders of interim certificates representing the bonds deposited under the Weir plan, and that every day's delay on the part of those who have not deposited is dangerous, as time may confirm many of the past transactions which the committee may be forced to try to set aside.

The Jewel Is Found

Last month we took the most logical course to find out what had become of the Jewel Oil Company, and printed an editorial calling attention to the fact that it was either lost, strayed or stolen. Now comes the answer to the mystery. We are in receipt of a letter from Argyll Campbell, former counsel for Jewel stockholders, which throws much light on the subject. The letter says:

"In reply to your editorial respecting the Jewel Oil Company permit me to say that several years ago a stockholders meeting was held and a merger with the Seaboard Oil and Transit Company was voted for. The Officers and directors of the Jewel then holding office resigned and men associated with the Seaboard were elected in their places. Since that time the writer has not in any way been connected with the Jewel Oil Company, but assumes that the merger was actually made, and that the Jewel ceased to exist as a separate entity.

"The writer became identified, in a sense, with the Jewel prior to the supposed merger through being retained in a legal capacity to examine into the corporation's affairs.

"This examination disclosed the fact that the promoters had employed methods dangerously near to 'frenzied finance' in the organization and floating of the company. The promoters unloaded their personal stock on the public and put the money into their own pockets, when, it is alleged, the stockholders believed they were purchasing treasury stock, and their money was to be used in developing and purchasing the properties held by the company.

"After the first examination was made by the writer and as a result the promotion board of directors was ousted, the contract regarding the properties which it was said had been lost, was found, and then it became

obvious that to put the company on its feet was a hopeless task.

"In order to get a temporary hold on the land and float the Jewel Oil Company the promoters made utterly reckless and impossible agreements regarding the development work to be done, and which if not done would terminate the lease—for a lease in fact it was.

"With an empty treasury, a flood of pressing debts inherited from the promoters and a contract which could have been carried out only by repeated assessments and then at a loss, and with creditors threatening suit against individual stockholders, the directors who had been elected in place of the dummy board called a stockholders' meeting, submitting the offer of merger made by the Seaboard company, and it was accepted unanimously, I think, not because there were any illusions or delusions respecting the Seaboard Oil and Transit Company, but because the merger afforded a method, though not a very satisfactory one, of getting from under and escaping personal lawsuits, further assessments and further troubles.

"The writer might add that at this juncture the real owners of the Jewel lands began an action to terminate the contract and cause a reversion of the land to them, and to this action there was no defense.

"All of this information was reported to the stockholders in a report of the directors prior to the meeting which voted for the consolidation, so I am unable to understand why any stockholder of the Jewel is not acquainted with the facts."

Mr. Campbell, whose address is Theatre Building, San Jose, Cal., not only has fully and clearly given the history of the ill-fated Jewel Oil Company, but he shows, as well, the danger the uninformed investor runs when he or she buys a stock without full and complete examination. The Derrick thanks Mr. Campbell for his courtesy.

Ignorance Causes Trouble

"A consideration of the properties of cylinder oils, and an analysis of the conditions under which they lubricate, lead us to the belief that a large majority of the complaints about cylinder oils can be accounted for as due to ignorance regarding the principles governing their use." So says Lieutenant G. S. Bryan of the Naval Engineering Experiment Station, Annapolis, Md. Continuing, his article in the Journal of the American Society of Naval Engineers for February, states:

"The three essential requirements of a good motor cylinder oil are: 1—It must lubricate the piston efficiently at the temperatures encountered in the cylinder. 2—It must give a good seal to the piston and rings, keeping them tight and preventing leakage of the oil and condensed gasoline past them. 3—It must burn without forming carbon deposits in the cylinder when and condensed gasoline past them. 3—It must burn

"We have seen that with the water boiling in the jackets the temperature of the inner surface of the cylinder walls will be about 267 degrees F. The temper-

ature of the layer of oil that is in immediate contact with the cylinder walls, which is the part that regulates the friction, cannot be much higher than this. I do not know of any motor oils that have a flash point lower than 325 degrees F. If the temperature of the cylinder walls gets up as high as this in a water-cooled motor there is something radically wrong, and the remedy is not to get another oil of higher flash point, but to locate the trouble and remove it.

"It is an old theory that was never founded on solid facts that a high flash point is a necessity in a Motor oil or the oil will burn up without giving any lubrication. The point was overlooked that, when we have a maximum temperature of the gases in the cylinder of 2,700 deg. F. and an average temperature of 950 degrees F., an oil with a flash point of 450 degrees F. will offer but little more resistance to burning than one would of 300 degrees F.

"Either oil will burn if kept for any length of time in contact with the hot gas, lubricating oil does not burn very easily or very fast however, and the time given for it to burn in a motor cylinder is very short.

With the Ocean Fuel Burners

For many years all navies have been experimenting with the transference of fuel oil from tankers to warships in the open sea and for the first time in history this transfer through a pipe has been accomplished while both vessels were traveling at fourteen knots an hour. This feat was accomplished by the United States Battleship Wyoming and the collier Cyclops, off Hampton Roads, Va. There was a moderate sea and the Cy-

clops was about fifty yards from the Wyoming during the transfer.

This experiment will be studied with much interest by all navies for during war time one of the difficulties of maintaining a fleet at sea lies in the fact that there must be fuel bases within easy reach. If the fleets can be accompanied or met by colliers with ability to transfer their loads while traveling, it will mean a larger scope of operations.

General Petroleum Ship Burned

The tank steamer Marieopa, owned by Messrs. Wilhelmson of Norway, chartered by the General Petroleum Company of California, caught fire while in dry dock at Rotterdam, and was badly damaged. She is now being repaired at Rotterdam and will resume her business as general oil freighter.

Tanker Launched in San Francisco Bay.

The motor boat Kern was launched successfully at the yards of Moore and Scott, and christened by Miss Guenivere Kibele, daughter of the marine superintendent of the Union Oil Company, for which the vessel was built. The Kern is a twin-screw vessel and is to be operated in San Francisco Bay. She will have a capacity of 80,000 gallons of fuel oil.

East Asiatic Company Comes to San Francisco.

Otto Jelstrup, general agent at this port for the East Asiatic Company recently announced several additions to his company's service to and from San Francisco.

To begin with, the motor vessel Annam has been added to their service from this port to the Orient. The vessel sailed from Yokohama for Copenhagen on August 3, and she will get home and get out here in time to begin loading late in November.

Coming for California Fuel Oil.

Sometime about the middle of September the big East Asiatic Company motor vessel, the Falstria, will arrive at San Francisco to load with fuel oil for herself and the other vessels of this company. That the East Asiatic company uses nothing but the finest fuel oil is thus evidenced. She recognizes that California oils fill the bill and for that reason the big steamer has been ordered to call here and fill her tanks. The Falstria is now at Vladivostok, and will proceed to Denmark via the Panama Canal.

New Motor Driven Cargo Ship.

Among the few mercantile vessels completed recently in the United Kingdom is the large twin-screw motor-driven cargo ship Abelia, a vessel of more than usual interest. The Abelia has been built at the Walker shipyard of Sir W. G. Armstrong, Whitworth & Co., for the Flower Motor Ship Company, Ltd., and is of about 5600 tons deadweight. She is of approximately the same dimensions as the motor ship Arum, built and engined for the same owners by Messrs. Swan, Hunter and Wigham Richardson, Walker-on-Tyne, and delivered about a year ago.

The propelling machinery of the Arum consisted of

two sets of single-acting Neptune Diesel oil engines, working on the two-stroke cycle, while the two sets of engines of the Abelia, which are also of the two-stroke cycle type but of different design to those of the earlier vessel, have been constructed by the Wallsend Slipway and Engineering Company. The engines have been designed to develop in all 1200 b. h. p. when running at 120 revolutions, and to give the ship a service speed of about 9½ knots. The auxiliaries of the Abelia are all steam-driven, two donkey boilers, fitted for burning either coal or oil fuel, being provided for steam-raising purposes.

Large Tankers are Busy.

Among the largest oil tankers in the world are several belonging to the Mexican Eagle Transportation Company, the Lord Cowdray corporation operating in Mexico. These have a capacity in excess of 100,000 barrels each. The Standard interests have several about the same size, all on the Atlantic. During the last week in July the San Gregorio, one of these huge tankers loaded 100,000 barrels of fuel oil at Port Arthur, Texas, for England. It is expected that the full capacity of these boats will be demanded to fill English orders.

Mexican Petroleum Company.

The Mexican Petroleum Co. is particularly aggressive in the construction of ships and expansion of its business in this and other countries. Within the last year close to \$400,000 was spent for wharves, pipe lines, tanks, etc., a short distance above New Orleans. At Cateret, N. J., it will spend about \$750,000 for wharves, tanks, distributing stations, etc. Expenditures at Portland, R. I., Boston harbor and Portland, Me., aggregate a total of close to \$500,000. At San Cristobal, the Atlantic terminus of the Panama Canal, storage tanks and a distributing station have been erected. In addition large expenditures have been made in Mexico.

Five additional tank steamships are being constructed which will give the company a total tankship capacity of 618,000 barrels. Contracts closed by Mexican Petroleum with Great Britain for fuel oil mean that the output of the company will have to be greatly enlarged and this is one of the reasons for its large increase in storage and tankship capacity.

Expecting a Gusher.

The Balboa Oil Company is sanguine of success in its Mission Valley venture, near San Diego. The company has had delivered at its well 4800 feet of 4 1-2 inch casing with which to shut off the water in the well and permit the oil flow. One of the San Diego Oil engineers is confident that the well will be a gusher.

California Derrick

The Oil Authority of the Pacific Coast

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

It Is Up to the Government.

Judge Bledsoe's court, down in Los Angeles, was the scene of a most interesting little disension, early in August, when a motion was heard on behalf of the Consolidated Midway Oil Company and the National Pacific Oil Company, for an order authorizing Howard M. Payne, of San Francisco, receiver, to pay debts amounting to about \$2,100 alleged to be due on producing about 57,000 barrels of oil, that is now in the hands of the receiver. It appeared that under the order of the court the government has possession of all the properties of the companies and that they were threatened with suits if the bills were not paid.

E. J. Justice, special assistant United States Attorney general, who appeared in opposition to the motion, argued that the same issue is likely to arise in the adjudication of all of the oil cases set for hearing in Judge Bledsoe's court next fall, involving the question whether the receivers should pay the bills for producing oil taken possession of by the receiver under order of the court. These bills amount to hundreds of thousands of dollars.

Mr. Justice claimed that if the oil companies were trespassers under a finding of the court hereafter to be made, there was no reason why the bills should be paid, for the oil was taken from property that the company did not own. He further declared that there was no evidence shown that the bills were incurred in producing the oil that had been taken possession of by the receiver; again it was claimed that more damage had been done to the land than the bills amounted to.

Judge Bledsoe gave Receiver Payne until September 13 to report whether all of the items in the bills sought to be collected were expenditures made in producing the oil that is now in the hands of the receiver. If so, and an investigation indicates that they were properly made, he said the government ought to pay as the government had the oil or would profit by its sale.

Pacific Mail Gets Good Prices.

The Wall Street Journal estimates that the price received by the Pacific Mail Steamship Company for its five transpacific vessels was not less than \$7,000,000. The same paper assumes that seven other vessels will be sold in the near future, bringing the total cash proceeds from this source up to \$9,000,000.

On April 30, 1915, the Pacific Mail had \$2,713,788 purchase money notes. This amount has since been reduced to approximately \$2,500,000.

In other words, surplus working capital will take care of the remaining notes, leaving the proceeds of the sale of ships for Pacific Mail stock. Estimating these proceeds at \$9,000,000 means that in the near future, before dissolution of the company, stockholders of Pacific Mail will receive from \$45 to \$50 a share.

Pacific Mail, on June 30, 1915, showed an \$11,037,863 profit and loss deficit. That is, carrying the capital stock as a liability at par value, Pacific Mail on that date lacked \$11,037,863 of the amount required to pay off the stock at \$100 a share, showing book assets of \$8,962,137, against the \$20,000,000 stock. Since that time this amount of net assets for stock has been increased some \$50,000 by payment of notes from earnings.

Trade Lost by Lack of Credits.

Most financial transactions between Tasmania and the United States are negotiated through London. This has proven very unsatisfactory in the past, as, regardless of the fact that exchange direct with the United States could be procured from the local branch of a large Sydney bank, yet very few merchants avail themselves of this convenience. This was not entirely due to habit, but it is to be accounted for more by the fact that London has always acted as the financial center for Tasmania, and that under normal conditions better terms were usually obtainable by negotiating exchange through London.

Regardless of the fact that many American exporters give liberal credits to Tasmanian merchants and have built up strong connections, yet the disinclination to give credit on the part of the majority of American exporters tends to discourage trade with this country. The merchants of Tasmania are averse to paying cash with order, as it often happens that goods are unduly delayed in transit for as much as six months and even under the most favorable conditions, goods will not be received for several months after the order is sent. As merchants give liberal credit to their customers, merchants with limited capital are not in a position to pay cash with order. On the other hand, most of the merchants are willing to pay for goods upon receipt, though more favorable terms are enjoyed by many of them with European firms, and likewise by some firms with the United States where there has been a long connection and the reputation of the house is beyond doubt.

Government is After the Associated.

An investigation has been started by the Federal Government looking to the forfeiture of the holdings of the Associated Oil Company in the Elk Hills, which were brought into much notoriety when the action to cancel the Southern Pacific's patents in the same region were on trial.

Various locators from whom the Associated claims title, have been summoned by the Government, and

their motives in filing will be inquired into, also what they did to hold the land and why they transferred their holdings to the Associated. Plainly speaking they are going to be asked if they made their locations for themselves in good faith, or whether they were dummy locators for the corporation.

The lands in question are within the limits of the naval fuel reserve which may be a reason for the government being anxious to recover possession. The capacity of the wells drilled by the Associated thereon was a matter gone into quite fully when the Southern Pacific was on trial.

Associated Reaches 4 per cent Basis.

The secret is out. Those who have been wondering at the continued rise of price of Associated Oil stock may now sagely shake their heads and say "I told you so."

All doubts as to the financial status of this company were set at rest when the directors announced an increase of 1 per cent on the annual rate of dividends.

All the speculators were caught napping and the scramble that followed the announcement on the Stock and Bond Exchange reminded one of the old days when times were good and speculators had plenty of money. When the Exchange opened on the morning of Wednesday, September 1, no sign was given of what action Associated Oil directors would take. The day closed with everybody still guessing and on Thursday the opening came with everybody in the dark. Thursday dragged along to the afternoon session and then it was noticed that not a share of Associated stock had been sold with the price at 44 3-4 bid. Then came the announcement that the stock was going to pay \$2 a share and immediately a wild rush of buying orders came in. The price soared to 49 1-2 and after the exchange closed the Curb was offering 50 1-2 with no stock for sale. The total transactions during the closing session of the Exchange amounted to 1125 shares, or about one-fifth of the total for the entire month of August.

It is now generally believed that the heavy buying of Associated stock during August was for the account of insiders who knew what was coming and took advantage of a price ranging around 39 1-2 to 41 to load up for the killing.

Much disappointment was felt in many quarters because on the day after the announcement of increased dividend the stock did not go right on climbing to the price that prophets had been predicting. In fact the price sagged back after a spurt to 51 1-2 and dropped to 49 1-2.

Oil Wells Break All Records.

The quantity of petroleum entering the markets of the world during 1914 amounted to 400,483,489 barrels and of this record breaking output the United States is credited with 66.36 per cent, representing a quantity a trifle less than double the output of all the oil producing countries combined. In the United States the production amounted to 290,312,535 barrels. Of this quantity 265,762,535 barrels were either marketed or were utilized directly in field operations, and 24,550,000 were placed in producers' field storage to meet future requirements.

Mr. Zitt Tells His Side.

The Derrick believes in fair play and it gives space to a letter from F. Zitt, of Willits, California, relative to an article in the August issue of this paper. He sends two clippings from Willits' newspapers, showing that there is every possibility of a good oil district in that vicinity. The letter is somewhat bitter, but possibly Mr. Zitt has reason to feel that way. He says:

"It will be necessary for you to read the two extracts from Willits papers, and then you will have the facts on which I tried to form a company to drill for oil and gas, which is here in quantity, and then the reading public can judge which has been the goat. As for the Bank of Willits, on June the 16th, I put \$1,000 there for a checking account, and explained my plan to Mr. Bechtel, asking him to join with me in developing the valley. He said he would think it over and I went ahead and did only what I thought I had been granted a right to do. I never took a cent expense money. Then Mr. Bechtel, roared, not because he was hurt, but because my plans would interfere with the profits of his electric light company. He admitted, after he heard all my arguments by getting out of his chair and saying, 'I wish you luck, and will say that when the work is done the stock will be worth \$100 a share.' Does this look like I was a rogue?"

The Derrick gives the letter with the understanding that there is always another side to a question. Mr. Zitt probably, was like many another man who took too much for granted and acted on too slight encouragement, believing in his own integrity and thinking everyone else was equally as open.

Spellacy Sells Mexican Interests.

A report from Tampico, Mexico, says that the negotiations pending for several months between Timothy Spellacy and associates and J. S. Cullinan, of Houston, Texas, have culminated in an option given to Cullinan and Samuel Untermeyer, a New York lawyer and promoter, running until December next on 850 shares of leases in the Topila and Panuco districts above Tampico. The reported price asked for in the option is \$1,300,000. One producing well with an output of 2000 barrels a day was completed on the property a year ago. It is said the property will be taken over and operated at once. The negotiations have been pending for more than a year.

Oil Men Will Be Interested.

Two days have been set aside at the Panama-Pacific Exposition that will be of special interest to oil men. September 25 has been chosen as Machinery Day and exhibitors are arranging a special program. The special feature of the day will be the demonstration of all the various exhibits of machinery and electrical appliances in such a way as to interest every one.

A large number of engineers will be in San Francisco during that week in attendance on the various engineering congresses. There will be a recess of these congresses on Wednesday afternoon, September 22, and that day has been chosen by the internal combustion engine exhibitors as Internal Combustion Engine Day for special demonstration of their engines.

Needles Waste of Money Stopped

The United States Geological Survey sends the following advice regarding needless waste of capital in drilling for petroleum:

"In the early days of the oil industry one geologist made his reputation and proved his services to be invaluable to his company by telling the operators merely where not to drill. In a recent publication of the United States Geological Survey, Bulletin 602, entitled 'Anticlinal structure in parts of Cotton and Jefferson counties, Oklahoma,' by Carol H. Wegemann, the Federal Survey, working in cooperation with the Oklahoma Geological Survey, is giving similar information to the public, but it also points out the favorable localities for drilling. It gives the oil prospector valuable suggestions for operating in an untried territory and puts into the hands of the scientist a mass of valuable geologic observations on the Permian 'Red Beds' gathered during the study of the territory.

"The region discussed embraces about 270 square miles in southern Oklahoma, bounded on the south by Red River and on the north and east by the branch of the Chicago, Rock Island & Pacific Railway which passes through Temple, Hastings, Waurika, Sugden, and Ryan. It was examined by Mr. Wegemann during the summer and autumn of 1913.

"The Geological Survey does not, of course, promise that oil or gas will be found at any point in this unexplored area. Only the drill can answer this question, for the occurrence of oil is controlled by several factors, some of which can not be detected at the sur-

face of the ground. On the west the area joins the Grandfield district, discussed in the United States Geological Survey's Bulletin 547. Across Red River, in Texas, to the south and southwest, are the oil fields of Petrolia and Burkburnett. The development in the vicinity of Lawton lies some 30 miles north and a little west of the field, and the Healdton pool 25 miles east of it.

"On all sides, therefore, lie proved oil fields, and in the area examined the same formation is present at the surface as that through which the wells of Petrolia, Burkburnett, Healdton, and Lawton have been drilled. It is an area in which few tests have been made, and its secrets of success or disappointment for the operator are still untried. The present report discusses the possibilities of finding oil or gas in the area and indicates the most favorable localities for drilling wells. It includes a map showing locations of anticlines and the localities most favorable for the accumulation of oil and gas.

"Money put into drilling dry holes in an undeveloped area is lost almost as completely as if it were burned. It is an expensive way of learning where not to drill, and the benefits derived from such an expenditure are almost entirely negative in character. Such prospecting in the region described in this report costs in the neighborhood of \$8000 to \$10,000 a hole. If the report should accomplish no more than the saving of the dead loss incidental to the drilling of one dry hole in this area it will have more than paid for the cost of examination."

Field Deputies at Work

R. P. McLoughlin, who was recently appointed to the newly created position of State Oil and Gas Supervisor by State Mineralogist Hamilton, has announced the appointment of four deputies, who will be stationed in the various oil fields of the State. The duties of the deputy supervisors will consist largely of becoming thoroughly informed on physical conditions in their respective fields and advising operators as to the most effective methods of controlling underground water. They will also furnish the supervisor with information necessary for the enforcement of the new law dealing with the subject of water in oil wells.

M. J. Kirwan will attend to the work of the new department in Fresno and Kings counties and in a portion of Kern County. He will be stationed at Coalinga. Kirwan is a civil engineer and has for some years filled the position of Oil Well Commissioner for Fresno county.

E. B. Latham will have charge of work in Kern, Santa Barbara and Ventura counties, his headquarters being at Santa Maria. Latham is a geologist, and for several years has been in charge of the work carried on by the Kern County Oil Protection Association in the Midway Field. This association was a voluntary affair and accomplished a great deal of useful work. One of the most easily recognized results of this work is the "peg model" of the Midway-Sunset field, made

under Latham's direction and now on exhibition at the Panama-Pacific International Exposition.

R. E. Moran will look after the work in Orange, Los Angeles and Ventura counties, being stationed in Los Angeles. Moran is an engineer and geologist of long experience in the oil fields of the western portion of the United States. He is at present actively interested in several oil-producing concerns, and has at various times been in the employ of nearly all of the large oil companies of California.

Chester Naramore will be in charge of work in Kern and Ventura counties, with headquarters at Taft. Naramore is a mining engineer with wide experience in managing producing oil properties, having had charge of properties in several California fields, and more recently having been in charge of operations for Canadian companies located near Calgary.

Dates and places have been announced for the meetings of oil operators called by the State Mining Bureau for the purpose of discussing the new law regulating the drilling of wells. The first meetings will be held at Coalinga, where the Growlers' Club, an association of oil men, will be addressed by State Mineralogist Hamilton and Supervisor McLoughlin.

The second meeting arranged for the Mining Bureau officials will be held on Wednesday in the rooms of the Bakersfield Board of Trade and from there the officials will proceed to Taft, where the oil infiltration problem will be discussed with the Petroleum club membership Friday evening.

Believe in Good Future of Mexico

A letter received from Tampico, Mexico, tells of many new transactions in oil lands in that vicinity, and brings quite a bit of news about interest that is being shown there. According to this information several of the larger foreign oil operators, as well as quite a number of smaller concerns, are demonstrating their belief in the future potentialities of the Gulf Coast oil region of Mexico by making investments in lands which are situated on or adjacent to the proven districts. Many of the native land holders have suffered such financial losses as a result of the long period of revolution that they are willing to sell their properties at a great sacrifice, and, notwithstanding the troublesome times and great industrial inactivity which the country is experiencing, Americans are scattered over the country hunting bargains and picking up landed estates at cheap prices. Representatives of several large British oil companies are pursuing the same policy.

Among the latest transactions noted was the sale of 200,000 acres of land in the Panuca field, about thirty miles from Tampico, to White & Sinclair, oil men of Tulsa, Oklahoma. It is said that the consideration was about \$1,000,000, gold.

That the restoration of peaceful conditions in Mexico will also quickly bring about wonderful development operations on part of the larger oil companies is indicated by the activity with which they are enlarging their holdings. Perhaps the most notable instance of this kind is the activity of the Dutch-Shell Transport and Trading Company, which has quietly added to its possessions in the proven oil area of the gulf coast region until it now owns in fee simple approximately 1,000,000 acres. It is getting its affairs in shape to carry on its exploitation operations on an enormous scale. Its present available production of about 10,000 barrels

a day is but an infinitesimal part of what the big property may be made to bring forth.

The Lord Cowdray interests, operating under the names of Aguila Oil Company, and S. Pearson & Sons, Ltd., have recently taken some large leases on oil lands in the vicinity of Potrero del Llano, where the world's largest producing well is situated. It is reported in this connection that the Cowdray interests have placed an order for machinery for doubling their capacity in the refinery at Minatitlan, on the Isthmus of Tehauntepec. Despite revolutionary disturbances this refinery has been running without interruption.

The Penn-Mex Petroleum Company, the Texas Company and a number of other operators have added to their landed holdings in the Tampico territory during the last several months.

The Pierce Oil Corporation, which owns a large refinery at Tampico, is placing itself in position to obtain its oil supplies from its own wells. It owns a large tract of land in the producing territory, and it is stated that it will begin development work as soon as conditions are more stable.

It will be seen by the above that as soon as disturbances quiet down in our revolution torn neighbor there will be an immense amount of oil territory developed and there will also be an extraordinary supply of oil to be added to the supplies furnished by the various fields of the United States for the purpose of making up the deficiency caused by the European war. According to those best informed on the oil situation there is coming such an immense demand for petroleum and its products that all the fields in the world will not be able to meet the demand. With conditions in Mexico in their present shape it will fall to the United States to meet this demand and that will mean a most extraordinary increase in the output of our wells not only in California but all over the country.

Earliest Account of Petroleum

Edwin C. Bell, trustee of the Drake Memorial Association has been delving into old volumes in the library of Mr. John H. Schude, of Titusville, Pa., and has found a book entitled "Joyfulness out of the New World," translated by John Frampton from the Spanish of "De las Drojas de las Indias," which was first printed in Spain in 1569, and translated into English in 1596. He makes the following extract for the benefit and instruction of those interested in petroleum:

"Of a gumme that is taken out from under the grounds.

"In the Callo, being a country of Peru, there is a province which doth not beare any tree or plante, because the Grounde is full of Gummes, and from this ground the Indians take out a Licour, that serveth them to heale many diseases, and to take it out they use it in this manner.

"They make of the Earth certeyne Sesternes very greate, and set them upon timber, or Canes, and underneath they put a thing, that may receive the Licour, which commeth out of them, and they place them in the Sunne, and with the heate and strength thereof, the Gumme is melted or the Licour, whiche profiteth too make fire of, for in that place there are no Trees, nor

any other thing to make fire of; and it is an evil light for it casteth out black Smoke, and an horrible smell; and for all this, seeing they have none other thing to make fire of, they take paynes with it.

"The Licour which commeth forth of it, profiteth for many diseases, and especially when they depende of colde, or colde causes. It taketh away anye friefe of the sayde cause, and all swellings whiche come thereof; they heale with it wounds, and all enilles which the Carana, and the Tacambaca doo heale. That whiche they sent me, is of a red colour, somewhat dark, and it hath a good smell."

In submitting the above interesting extract, Mr. Bell writes:

"Thinking you might like the foregoing historical item giving the description of the first discovery of how the natives procured petroleum on the continent of the New World, I gladly submit same. The account is taken from the above named book owned by Mr. John H. Schude of Titusville, whose library is one of the richest in the country for rare, early printed volumes. You will observe the spelling, capitalization and punctuation are peculiarly interesting, for the reason they represent the use of the language four hundred years ago."

CALIFORNIA CONCENTRATES

The Kern Trading and Oil Company is building a new rig on section 15, 32-24, to protect its lines.

The Crosby Turbine Oil Burner Company has been incorporated at Los Angeles, with a capital of \$25,000.

Work has been resumed on the Comstock Crude lease, on section 34, 12-23, Maricopa.

The Amalgamated Oil Company has brought in well No. 50, near Whittier, with a flow of 700 barrels.

The Columbus Oil Company has been organized to exploit new oil fields in the vicinity of Columbus, N. M.

The Lakeview Oil Company, of Globe, Arizona, has incorporated with a capital of \$500,000.

The Great Dome Oil Company has incorporated at Reno, Nevada, with a \$6,000,000 capitalization.

Work has been resumed on the Comstock Crude lease, on section 24, 12-23, Maricopa. It is expected the well will be carried down to 4800 feet.

The Valley Pipe Line company is planning to build a pipe line from Coalinga to the tank farm four miles south of McKittrick.

The Midway Gasoline Company is erecting a second plant half a mile from its original plant on section 1, 32-23, of the Kern Trading and Oil Company.

The Federal Drilling Company has started drilling on No. 6 of the Consolidated Oil Co., on section 30, 31-23, McKittrick district.

General Petroleum is completing one of its new holes on the Glove division, on section 15, 31-22, at a depth of 1200 feet.

No. 4 well of the Standard Oil Company, on the Columbus-Midway division, on section 28, 31-23, which has been redrilled, is now flowing 700 barrels a day.

No. 3 well of the Northern Exploration Company, on section 16, 32-24, is deeper than either No. 1 or No. 2, yet oil has not been found.

The Standard Oil Company has suspended work on its No. 1 Palmer lease on account of water troubles in neighboring wells.

The Maricopa Northern Oil Company has levied its fourth assessment of 1 cent a share. It is delinquent on September 15.

The Developers Oil and Refining Company, of Phoenix, Ariz., has incorporated, with a capital of \$250,000.

The St. Helens Petroleum Company's No. 8 well on the King lease on section 16, Midway, came in with an 800 barrel flow.

General Petroleum Company will drill four wells on the Globe division of section 15, 31-22, and one new well in the Belridge district.

The Standard Oil Company has brought in another big producer. Well No. 15, on the Murphy lease at Whittier. It flows 1500 barrels a day.

No. 43 well of the Mascot Oil Company on section 26, 32-23, continues to sand. It gives about 150 barrels a day on the beam.

Five hundred cars of crude oil were sent out of the Coalinga field during July, by the Southern Pacific Company.

The Shell Company of California is preparing to erect two 2000-barrel steel tanks at Ora station, just east of Coalinga.

The General Petroleum Company has cemented the bottom of the 4400 foot well in Brea Canyon, in hopes of shutting off the water, which has been its chief product.

The General Petroleum Company is preparing to bring in its new well in the Buena Vista division, section 32, 31-24, near Taft. It is down 3600 feet with a string of 6 1-2 inch casing.

The Lompoc Monarch Oil Company, with property in the Santa Maria oil district, has been permitted to sell 150,000 shares at 25 cents a share, to net the company not less than 80 per cent of the selling price.

Permit has been given the On Top Oil Company to issue 19,155 shares of stock to J. J. O'Brien, trustee, and others, in exchange for forty acres of land in Kern county.

A Syndicate of Los Angeles people is reported to be planning to drill a test well in southern New Mexico, west of El Paso, Texas. No development work has been done in this region but surface indications are promising.

Plans are under way for the erection of a second plant by the Midway Gasoline Company, to be put on section 2, 32-23, within half a mile of the original plant, the success of which on the wells of the Great Northern Oil Company has been such as to justify the new work.

The deepest well yet drilled in the McKittrick-Belridge-Lost Hills region is the No. 3 of the Belridge Oil Company, situated on section 35, 27-30, which recently flowed above the crown block and is now flowing 600 barrels of 35 1-2 gravity oil a day.

Permit has been granted the Mereed Paraffine Oil Company to sell 100,000 shares at 10 cents, to net the company 100 per cent of the selling price, the proceeds to be used in operating on leased property in San Benito county, California.

Permission has been given to the Ancient Beach Oil and Gas Company to issue 600,000 shares to Joseph L. Russell, G. M. Gordon, and C. H. Adkins, in exchange for leases on properties in the Imperial Valley, and to sell 100,000 shares at 10 cents, to net the company 85 per cent of the selling price.

The California Commissioner of Corporations has granted a permit to the San Diego Consolidated Oil Company to issue 65,000 shares of stock to F. E. Wiscup in exchange for the assignment of a lease covering 32 acres in the Fullerton district, and to sell 250,000 shares at 50 cents a share to net the company not less than 80 per cent of the selling price.

Asphalt in 1914.

Although there was a decrease in the marketed production of natural asphalt and of manufactured or oil asphalt derived from domestic sources in the United States in 1914, the decrease was more than offset by the greatly increased output, from American refineries, of oil asphalt derived from crude petroleum imported from Mexico.

According to J. D. Northrop, of the U. S. Geological Survey, who attributes the decline in asphalt production from domestic sources chiefly to the increasing use of the product manufactured from Mexican oils, the output of natural asphalt in 1914 amounted to 77,588 short tons, valued at \$630,623; the output of oil asphalt from domestic petroleum amounted to 360,683 short tons, valued at \$3,016,969; and the output from American refineries of oil asphalt from Mexican petroleum amounted to 313,787 short tons, valued at \$4,131,153 short tons, valued at \$4,131,153. Compared with 1913 the output of natural asphalt in 1914 declined 16 per cent and that of domestic oil asphalt 17 per cent, whereas the output of Mexican oil asphalt increased 174 per cent.

Locally, in Texas and Utah, the output of certain varieties of naturally occurring asphalt, required for special purposes, showed a gratifying increase. In California a notable increase in the output of oil asphalt derived wholly from domestic petroleum, resulted largely from an increase in the use of asphalt in highway and pavement construction in the State.

Asphaltic material and products to the value of \$186,142 were imported for consumption during the calendar year. Exports during the same period amounted in value to \$1,247,020, leaving a trade balance of \$1,060,878 to be credited to the domestic asphalt industry.

Western Crude Oil Is Best For Motors.

Oil experts are authority for the statement says the National Petroleum News, that automobile oil made from Western asphalt base crude give best results for use in machines. Experiments were first made with oils from Pennsylvania crude, but better success was obtained with latter experiments with California and Oklahoma crude oils, as it does not thicken up at low temperatures. This opinion, from an automobile expert is especially interesting at this time, since it bears out the decision of the international jury at the Panama-Pacific International Exposition, which awarded highest honors among automobile oils to an oil made from California asphalt base crude.

Western Union Gusher Active.

The Western Union No. 54, Santa Maria, continues to flow at 1100 barrels a day. It started in at 5000 barrels daily and now appears to have reached a steady gait. Wells number 3 and 47 are expected to be finished within 60 or 90 days. The company is getting \$1000 a month from gas used for gasoline making.

The latest oil excitement in the northwest part of Kern County, California, is the remarkable showing in a water well sixty four feet deep, sunk in the vicinity of the Lost Hills district. So strongly is the water impregnated with oil that it is ruined for domestic purposes.



Appreciation

Letters from motorists everywhere on the Coast tell of the good service they are getting from

ZEROLENE
the Standard Oil for Motor Cars

All makes and sizes of gas cars are mentioned. All sorts of road and working conditions are recounted.

Zerolene was awarded highest honors at both the San Francisco and San Diego Expositions. It was declared highest in lubricating efficiency in competition with several other oils — a triumph for oil made from California asphalt-base petroleum.

Zerolene is the oil that will give YOU efficient service. Dealers everywhere and at all our service stations or agencies.

Standard Oil Company

(California)

Government Tests Natural Gas

In the course of its investigations looking to a more efficient utilization of the fuel resources in the United States, the Bureau of Mines has collected and analyzed samples of natural gas from wells in many oil and gas fields. This report presents the results of an examination of natural gas as supplied to 25 cities. No such comparison has hitherto been made, and the results are of interest because they show how the gas in one region differs from that in another and emphasize the points of similarity.

It is generally assumed that methane is the predominant constituent of natural gas, and that the heating value of gas is approximately 1,000 B. t. u. per cubic foot at 0 deg. C. (32 F.) and 760 mm. pressure. One object of this investigation was to test the natural gas used in many cities in order to see how closely these assumptions approach the truth.

Out of the samples of natural gas from 25 cities in the United States, 5 contain methane only as the combustible gas. The others contain, in addition to methane, higher members of the series of paraffin hydrocarbons.

Natural gas in two different sands of the same field may vary decidedly in composition.

Some of the natural gas used in Texas has a heating value of about 740 B. t. u. per cubic foot at 0 deg. C and 760 mm. pressure. The highest heating value determined was 1,312 B. t. u. per cubic foot.

The natural gas used in Pittsburgh, Columbus, Cleveland, Cincinnati, and many other places in the East is remarkably uniform in composition.

The explosive limits of mixtures of natural gas and air lie between about 5 per cent gas, low limit, and 11.50 per cent gas, high limit. Many of the samples mentioned herein require about 10 cubic feet of air per cubic foot of gas for complete combustion.

According to Cady and McFarland and to Czako, helium may be present in natural gases from a trace to 1.84 per cent.

The ignition temperature of natural gas lies between about 550 deg. C. and 750 deg. C.

The composition of the natural gas used in any one town may remain remarkably constant for a long time.

Oxygen, carbon monoxide, hydrogen, and olefin hydrocarbons are not present in natural gas.

The only practical way to remove products of combustion (either perfect or imperfect) from a gas is by means of a vent leading to the house chimney.

A large proportion of natural gas in air is required to suffocate men. As far as canaries are concerned, the effect on them of mixtures of natural gas and air is principally due to the lowering of the oxygen content of the air by the diluting action of the gas.

Chance for Oil in Mississippi

The people of Mississippi have long thought and many of them are fully convinced that the oil pools of the Gulf Coastal plain are not confined to Louisiana, Texas, or Southeastern Arkansas, but that there must be pools further east in this belt of country. It seems that the United States Geological Survey also has held a similar view, and in evidence of its hopefulness it has been examining an area in the Vicksburg region in a search for geologic structure regarding generally as favorable, other things being equal, for the occurrence of oil and gas.

Director George Otis Smith, who now gives out information in order to advise the drillers as to comparatively promising points at which to do wildcatting, makes plain the fact that while the general geologic conditions, so far as they can be detected from surface evidence, which is very scarce in this area, are of the kind attending oil and gas pools. There are other invisible conditions not to be detected at the surface of the earth that may make the somewhat favorable geologic structure discovered by the survey barren of oil after all. Hence, while he is disposed to encourage drilling along the folds described in the following paragraphs he wishes it understood that such test drilling will be nevertheless in the "wildcat" class.

That the accumulation of oil and gas in commercial quantities is very largely determined by the attitude of the rock beds (geologic structure) is now well recognized. Consequently the study of the structure of the region and the location of rock folds, particularly arches (anticlines) and domes in the beds, leads to the location of areas in which oil and gas are most likely to be present if they are to be found anywhere in the vicinity and is of great importance for the guidance of the driller; yet favorable structure does not guarantee the presence of accumulations of oil and gas in pools.

The region covered by the Geological Survey in a preliminary examination includes the central and northern parts of Warren County and the southwestern part of Yazoo County—an area extending from Warrenton north to Sartoria and lying between Mississippi and Big Black rivers. In general, the southern part of this area covers the Vicksburg quadrangle, a topographic map of which is being prepared by this survey.

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at the Angelus Grill*

Oil Production in July.

According to the Standard Oil Bulletin the report of operations in the oil fields for July is without feature. July production of 246,501 barrels is practically the same as reported for June. Shipments for the July period show a daily average of 253,156 barrels as compared with June figures of 255,421 barrels. Shut-in production shows no change and is estimated at 12,000 barrels daily.

Twenty-eight wells were completed during the month, yielding an initial daily production of 6397 barrels.

Summary of Developments and Production for all California fields for July is as follows:

FIELD	New Rigs	Drilling	Completed During Month	Abandoned	Wells Producing	Production Per Day
Kern River	2	..	..	..	1,671	24,810
McKittrick .....	..	..	..	..	278	10,157
Midway - Sunset	10	40	19	1	1,405	105,389
Lost Hills - Belridge	1	4	1	..	247	11,766
Coalinga .....	..	..	..	..	795	37,297
Lompoc and Santa Maria .....	..	8	1	1	241	13,365
Ventura County and Newhall	1	20	..	..	440	3,018
Los Angeles and Salt Lake .....	..	..	..	..	685	5,773
Whittier - Fullerton	5	61	7	..	600	34,714
Summerland .....	..	..	..	..	102	137
Watsonville .....	..	..	..	..	5	75
Totals	17	144	28	3	6,469	246,501
Total crude oil stocks, July 31, 1915, 60,409,979 barrels.						
Total shipments from fields, July, 1915, 7,847,851 barrels.						

Crude oil Prices at the Well, San Francisco, August 6, 1915, Effective June 7, 1915, Standard Oil Company offers the following prices for crude oil at the well:

Kern River, Midway, McKittrick, Lost Hills-Belridge, Coalinga

14 deg. to and including 20.9 deg. gravity	Per bbl., \$0.32 1/2
21 deg. to and including 26.9 deg. gravity .....	.. .40
27 deg. to and including 30.9 deg. gravity .....	.. .45
31 deg. gravity and lighter .....	.. .50

Ventura County

21 deg. to an including 26.9 deg. gravity .....	.. .50
27 deg. to and including 30.9 deg. gravity .....	.. .60
31 deg. and lighter .....	.. .70

Whittier-Fullerton Field

18 deg. to and including 20.9 deg. gravity .....	.. .40
21 deg. to and including 26.9 deg. gravity .....	.. .42 1/2
27 deg. to and including 30.9 deg. gravity .....	.. .52 1/2
31 deg. gravity and lighter .....	.. .60

Patents Recently Granted

The following recently granted patents of interest to the oil trade are reported expressly for the California Derrick by Joseph M. Nesbit, Patent Attorney, Park Building, Pittsburgh, Pa., from whom printed copies may be procured for 15 cents each:

Tool for drawing casings from wells, J. W. Davis, Colgate, Okla., 1,145,125.

Well Packer, P. H. Mack and F. H. Mack, Bradford, Pa., assignors to Oil Well Supply Co., Pittsburgh, 1,145,155.

Sand Pump, C. T. Mapes, Crafton, Pa., 1,145,158.

Swivel combination valve, G. W. Bowie, and C. R. Smith, Bremen, O., 1,145,752.

Reamer, A. E. Harkness, Bradford, Pa., 1,145,250

Pump, N. W. Davis, Port Jefferson, N. Y., 1,146,312.

Pumping rig, J. P. Coffman, Reno, Pa., assignor to National Transit Company, Oil City, Pa., 1,146,404.

Splice for oil derricks, Phillip Foukes, Pittsburgh, 1,146,756.

Pumping jack, Joseph Schulien, Delphoa, O., assignor to The George W. Grives Co., Bluffton, Ind., 1,146,765.

Device for holding well tubings, W. H. McKissick, Taft, California, 1,147,108.

Boring Machine, T. F. Seitz, Sullivan, Ind., 1,147,898.

Well drilling apparatus, J. L. Dyson, Loyalton, California., 1,148,366.

Grab for pump rods and pipes, J. W. Birdseye, Gorham, N. Y., 1,048,495.

Pipe tongs support, T. M. Hoffer, Wichita Falls, Tex., 1,148,679.

Pump rod shoe, E. E. Izer, Pomona, Cal., assignor to Pomona Mfg. Co., same place, 1,147,777.

Well boring apparatus, A. G. Willard, Los Angeles, and C. E. Wilcox, Bakersfield, Cal., 1,149,486.

Underreamer, F. A. Haugh, Independence, Kas., 1,149,512.

Deep well pump, M. T. Chapman and M. C. Chapman, Aurora, Ill., 1,149,633.

Deep well outfit, C. L. Parker, Los Angeles, Calif., 1,149,677.

Packer for oil wells, J. D. Griffin, Cairo, W. Va., 1,149,751.

Underreamer, Warren Wagner, Burkburnett, Tex., 1,149,799.

Independent Oil Producers

It is estimated by their statistical bureau that the Independent Oil Producers Agency concerns in California produced a July daily average of 250,000 barrels of crude oil, an increase of about 1500 barrels as compared with June.

Shipments were about 6000 barrels less per diem than in June. Little change in production of the individual fields was noted. The most important increase was about 1000 barrels daily average in the Fullerton field and about the same amount of decrease in Midway. There was an increase of 34 barrels in the number of producing wells over June. The daily average still remains more than 30,000 barrels less than it was for the whole of 1914 and shipments are less by 12,000 daily average.

Parkfield Property.

A 165-acre tract of prospective oil land in the Parkfield District, Monterey County, is offered for sale by Frank La Vine, 230 W. First St., Los Angeles, Calif. The property is close to drilling operations, and is a first class prospect. The big money comes in the discovery. Particulars furnished on request.

Oil Lands for Sale or Lease !
Tide-water, Santa Barbara County
A. S. COOPER, Santa Barbara, Calif.

A Fool and His Money

When the building of the Panama-Pacific Exposition was assured there were many hundreds of people who believed the time had come spoken of in that famous sonnet of John J. Ingalls, when Dame Opportunity knocks at our door. One of the first results of this idea came in the organization of all sorts of companies, and the foisting on the public of all sorts of get-rich-quick schemes that had to do with the Exposition and those who were coming to visit it. Fillmore street, between Union and the Exposition gate is lined with so many evidences of failure that it may be denominated the "Street of Blasted Hopes," yet these were but the little ones—those who ventured their dollars, acquired by long saving, in the expectation that there would be a harvest in the crowds going to and coming from the Fair.

A fair example of what became of money invested in schemes of a kind that the promoters said would bring returns a thousand-fold, is furnished in the recent investigation made by the Commissioner of Corporations of California into the affairs of the Mahomet Amusement Company, organized, and all its stock sold prior to the effective date of the Corporations Law of California.

The original idea of this company was to secure and operate certain concessions in the Zone, and the promoters helped themselves to more than half of the \$200,000 worth of stock and then sold the rest of it with the glowing assertions that the fortunate investor would net more than 1000 per cent, all of which was based on most conservative figures.

As usual when a glittering scheme having no other merit than the plausible talk of the promoter is present-

ed, there was no dearth of investors. The stock was rapidly absorbed and then the investors sat down and waited for the opening of the Exposition when the dollar bills would come flying to their pockets.

The Company paid \$2500 for a concession and then paid to the Exposition for faithful performance of its obligation, a cash bond of \$1250 more. The promoters paid to themselves salaries aggregating more than \$7000, with \$1000 more for traveling expenses. Legal expenses cost \$2700, rent called for \$500, architects got \$1400 and preliminary construction absorbed \$3000. Then something went wrong. The company got in bad with the Exposition on account of failure to comply with its contract and its concession was cancelled, leaving, according to the books, but \$4000 of the amount paid in by the purchasers of stock.

This was used to purchase a restaurant concession at the Exposition at San Diego, which also proved a failure, and now the stockholders have nothing left except experience. The Commissioner of Corporations has been asked to make an investigation, but as the company was organized and the stock sold before his office came into existence he can do little except give the usual sage advice to those who have lost their money.

The pitiful part of this, as of all such schemes, is that it is the poor and inexperienced who must suffer. In this case there is evidence that one broker took installment payments from a poor woman at Vallejo for half a year after the company had gone to pieces. It does seem that this might be the basis for some sort of criminal action that would bring punishment if it does not bring reimbursement.

Important Data On Gas Oil

The United States Bureau of Mines has just issued Technical Paper 109, which deals with the chemical and physical properties of the natural gases, used in twenty-five cities in the United States. In this paper, which gives the first comparative data of this kind ever published, the authors, G. A. Burrell and G. G. Oberfell say:

"The composition of the natural gas from twenty-five cities in the United States is shown. Five of the samples contain methane only as the combustible gas. The others contain in addition to methane, higher members of the series of paraffin hydrocarbons. The heating values range from 735 to 1312 B. t. u. per cubic foot at 0 deg. C. and 760 mm. pressure.

"Natural gas in two different sands of the same field may vary materially in composition.

"Some of the natural gas used in Texas has a heating value of about 740 B. t. u. per cubic foot at 0 deg. and 760 mm. pressure.

"The natural gas used in Pittsburgh, Columbus, Cleveland, Cincinnati and many other places in the East is quite uniform in composition.

"The explosive limits of mixtures of natural gas and air lie between about 5.00 per cent gas, low limit, and 11.50 per cent gas, high limit.

"For many of the natural gases listed, there is required about 10.0 cubic feet of air, per cubic foot of gas, for complete combustion.

"There is needed a very large amount of natural gas to suffocate men. As far as small animals (canaries) are concerned, the effect on them of mixtures of natural gas and air is principally due to the lowering of the oxygen content of the air by the diluting action of the gas.

"According to Cady and McFarland and to Czako, helium may be present in natural gases to the extent of from traces up to 1.84 per cent.

"The ignition temperature of natural gases lies between about 550 deg. C. and 750 deg. C.

"The composition of the natural gas used in any one town may remain remarkably uniform for a long period of time.

"Oxygen, carbon monoxide, hydrogen and olefine hydro-carbons are not present in natural gas, except possibly in negligible traces.

"The only practical way to remove products of combustion in gas stoves is by means of a vent leading to the house chimney."

Copies of this paper may be obtained by applying to the Bureau of Mines, Washington, D. C.

Handbook of India Now Ready.

An expert field that has not, in the past, been given adequate consideration by American manufacturers—a field, moreover, of almost limitless potentialities—is that of India. That Empire, by reason of its vast population, its splendid (even if unequally distributed) resources, and the new wants created by the gradual development of modernity among an ancient people, presents to the American exporter a singularly attractive opportunity for the exercise of his commercial energy and acumen. It is a land where poverty exists by the side of almost fabulous splendor; where famine may succeed a time of plenty; where the intensity of tropical heat and the great rains of the monsoon cause strange conditions in the preservation and sale of merchandise: where religious beliefs or racial traditions may constitute the determining factors in the marketing of goods.

India has been characterized by a recent writer as "the treasure sink," and to an American commercial traveler it seems "like a bottomless pit, into which supplies may be sent in an endless stream." Certain it is that the Indian field is eminently worth cultivating, and that to work it effectively much information is needed, of a specific and not always readily available kind. Those engaged in the furtherance of American foreign trade have been devoting to it the most thorough and painstaking attention, and to these investigations a special timeliness has been imparted by the European war. India, in 1913-14, imported from Germany and Austria-Hungary, respectively, \$41,092,000 and \$13,920,000 worth of goods.

India has a population of 315,000,000, and an area of 1,802,192 square miles. Its imports in 1913-14 amounted to the enormous total of \$594,517,000, of which the United States furnished only \$15,542,000. The value of American products consumed in India is less than \$0.04 per capita. Persons qualified to form an authoritative opinion believe that this should be very materially increased.

In an effort to stimulate interest in the Indian market and to emphasize the salient aspects of the trade, the Bureau of Foreign and Domestic Commerce has prepared a handbook of about 640 pages, dealing with the resources, industries, and commerce of India. This book contains many illustrations, a large detailed map, and facts concerning a multitude of Indian activities and conditions. It describes thoroughly the trade in all important imports. Every subject having a bearing on trade and its expansion has been covered. There are interesting accounts of the Native States, and of Ceylon, Afghanistan, and Thibet.

This volume, which is regarded as one of the most valuable publications ever prepared by the Bureau, is entitled "British India" and is Number 72 in the series of Special Consular Reports. It will be ready for distribution in about two weeks and may be obtained for \$1 from the Superintendent of Documents, Washington, D. C.

Southern Pacific Will Appeal.

Attorneys of the Southern Pacific Company are preparing to perfect an appeal to the United Circuit Court of Appeals and the United States Supreme Court, from the recent decision rendered in the United States District Court, at Los Angeles, by Judge Robert S. Bean, of Oregon, restoring to public domain more than 6,100 acres of oil land in Kern County.

Indiana Increases Production.

The petroleum output of Indiana in 1914 showed an increase for the first time since 1904, final returns crediting the state with 1,335,456 barrels, representing an increase of nearly 40 per cent over the output in 1913. This increase is attributed chiefly to the pools in Sullivan county, in the southwestern part of the state, which supported an active development throughout the year.

The average price per barrel received for the Indiana product declined from \$1.43 in 1913 to \$1.16 in 1914, but was higher than for any previous year except 1913, in the history of the state's petroleum industry.

Santa Maria Oilfields Report Loss.

Advices from London state that there has been a loss for the year 1914 of £57, 319 in the operations of the Santa Maria Oil Company of California, Ltd. This loss is attributed partly to a fire on the property and partly to incorrect estimation of production.

The Gold Problem.

Aside from the difficulties of transportation, the allied countries are naturally reluctant to reduce their stocks of gold, which are the basis of their currency systems, but it is not likely that the governments will discontinue the purchase of war supplies, or of such necessities as food, in order to retain gold. The need for these things is imperative, and the gold was accumulated largely for just such an emergency. It is moreover, a mistake to suppose that the domestic currency systems will collapse unless there is given percentage of gold behind them. An irredeemable paper currency will fluctuate in value, and hamper transactions with other countries according to the degree of the fluctuations. It is a misfortune for any country in this age of international trade to be off the gold basis, but when a country is engaged in war smaller misfortunes do not count. The fact is that a currency fixed upon a gold basis is a luxury that only a few countries have been able to afford until comparatively recent times. Russia and Austria-Hungary established gold payments in 1897 and Italy since then. Few countries have gone through a great war without suspending specie payments. The Bank of England was off the gold basis throughout all of Napoleon's time and our own Civil War experience is familiar. It is safe to say that none of the countries will hesitate to use their gold as long as it lasts, for governmental purposes, although they are likely to disregard the fluctuations of exchange in ordinary commercial transactions.

Notice to all Oil Companies

Have you Stock to Sell ?

Send for our new and comprehensive plan which will solve
Your Stock Selling Problem.

California Derrick will Help You!

Standard's Well in Kern River.

The Standard Oil Co.'s No. 1 wildcat well, section 15, 17-28 Kern River front, is reported to be producing 200 barrels daily. Work is being done on the No. 5 well 2 1-2 miles away. The well is now down 2500 feet.

Potter Oil Co.'s New Well.

The Potter Oil Co., on the former property of the Section Fifteen Oil Co., on section 15, 31-22, in the North Midway, has completed the No. 19 well at a depth of 1060 feet. Indications are that it will produce at the rate of about 100 barrels daily.

Gasoline Shortage in Sweden.

Jefferson Caffery, charge d'affaires of the American Legation at Stockholm, Sweden, says;

"Automobile owners are viewing with much anxiety the lack of benzine (gasoline) in the country and are attempting to find various substitutes, but are experiencing difficulties in finding a suitable one. This lack of benzine, together with the lack of tires, makes the operation of automobiles a difficult matter at this time in Stockholm."

Will Enforce Old Law.

The State Mining Bureau has issued a pamphlet on the subject of oil conservation under the new law, and in it calls attention to the fact that the Bureau is empowered to enforce an old statute to prevent waste of natural gas. This statute provides that any well from which natural gas is flowing must be capped when abandoned and the owners of such wells are forbidden to permit wasteful flowing of gas. The enforcement of this law will be part of the duty of officials recently appointed by State Mineralogist Hamilton under the infiltration act.

Oil on the Stock Market is Slow

During August there was little movement of oil stocks on the exchanges, and with the exception of the flurry in Associated the sales were few and far between. During the month 24,000 Associated Oil bonds were sold ranging from a low of 99 to a high of 99½. Associated stock sold to 5.856 shares with a low of 39¾ and a high of 44½. Forty shares of Amalgamated Oil were sold at 65¾ and 300 shares of Sterling Oil & Development Company sold at 1.10.

On the Los Angeles exchange there was considerable curb trading but the regular list showed little movement.

International Gas Congress Coming.

Arrangements have been completed for the International Gas Congress which is to be held in San Francisco September 27 to October 2.

The Gas Congress Committee of the Pacific Coast Gas Association has undertaken the arrangement of all details pertaining to the reception and entertainment of delegates. On September 26 special trains will arrive

via the Western Pacific Railroad from the Far East and the Middle West. The local Transportation Committee under the chairmanship of H. R. Basford, has arranged for the reception of delegates upon their arrival. The Palace will be hotel headquarters during the Gas Congress, although many of the guests will be quartered at other of our many good hostelries. Native Sons' Hall will be convention headquarters.

Shell Pipe Line Finished.

The last link of the oil pipe line from Coalinga to the Shell Company's refineries at Martinez was completed on August 9, between Concord and Pacheco, in Contra Costa county. This event was made the occasion of an informal celebration by the officials of the Shell Company and the Valley Pipe Line Company, owners of the line.

The Case Mineral and Petroleum Company, of Los Angeles, has been granted permission by the Commissioner of Corporations of California to sell 175,000 shares of its preferred stock at \$2 a share and to net the company 90 per cent of the selling price.

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The Situation of the Oil Industry

"Watchman, what of the night."

That is the cry that is going up all over the land, as regards the condition of the oil industry.

Does anyone really know just what the situation is?

We doubt it. There are many phophets, many optimists and many more pessimists. The big oil man is neither. The little oil man is all three. The big man is the man who analyses, investigates, makes deductions and then keeps his mouth shut. If he is an optimist he keeps still about it in order to take advantage of the bettering conditions. If he is a pessimist he says nothing because he does not want to help along depression.

The little oil man, on the other hand, talks too much. He is a pessimist one day, an optimist the next and a prophet all the time. Sometimes he is a prophet of evil and sometimes a prophet of good. But the prime characteristic is that he talks too much.

After this philosophical desertation in what class can the Derrick be placed if it presumed to discuss the situation of the oil industry?

The Derrick is neither an optimist, a pessimist nor a prophet. It is rather a mirror of conditions and being held up it shows what is going on and leaves it to the observer to say what is in the future.

Primarily all business has been very bad all over the world for the past several years. Almost a decade of dullness is bound to have its effect on all lines of industry and the oil industry has suffered along with the rest. That it has suffered more than the rest all oil men think. But the men of other industries are just as certain that it is their special industry that has been lowest in the scale. Whatever the individual may think about it the fact remains that in the oil industry there has been a most discouraging condition for several years, and every little gleam of sunshine is hailed as the coming of the new morn of prosperity.

Actual facts speak better for the oil industry than do the idle statements or idle guesses of those who do not study the situation. The facts so far as California oil is concerned, are practically these:

California oil is not an oil that can successfully compete with the eastern or middle western oils, on account of their grade. The result of this condition is that the bulk of the market of the immense California production must be found in California and adjacent states.

Increasing demand for fuel oil on ships, large numbers of which are being built all over the world means

that there will be a greater outside demand for California crude oil, and this demand will steadily increase. In addition to this the discovery of a process of smelting with crude petroleum, on account of which appeared in the Derrick last July, will mean a steady and large increase in demand for fuel oil.

Germany has taken possession of all of the Russian oil wells in Poland, those comprising the great bulk of Russian oil fields. Austria-Hungary has taken possession of all oil wells and oil stocks in Galicia and none of this oil can go on the market. China and Japan oil fields are in a state of embryonic exploitation and will not come into competition with outside oils for many years to come. Mexican oil is limited in its shipping possibilities owing to the internal dissensions of that country, Tampico and that vicinity being the only part of the country whence oil is sent to the outside world. This was exemplified not so very long ago when Doheny was compelled to take California oil to fill some of his English contracts. Prices of crude has steadily advanced in the eastern fields, and the demand has grown to such an extent that the above-ground stocks in California have been materially depleted—in one instance it being stated that this depletion amounted in the past few months to some 60,000,000 gallons in the stock of the Associated Oil Company. (The correctness of this statement is not vouched for by the Derrick.)

One significant feature of the California situation is shown in the fact that shipments of oil from the state during August amounted to a total of 8,077,586 barrels, while the total production during the same time was 7,680,047 barrels. This shortage more than makes up for the increase in June and July and helps along the depletion that was noted in April and May. It must be remembered, however, that the present total stock of oil in store amounts to 59,252,680 barrels, which is 100,000 barrels in excess of the amount stored on January 1, 1915.

Daily average production is now nearly 25,000 barrels less than during 1914, while the daily average shipments during August rose above the average of the preceding year.

Despite the decline in output the number of producing wells increased by seventy in August over July.

Conservative oil men lay stress upon the fact that the two expositions in California have been responsible for the use of a large amount of oil, and they advise against any feeling of elation, saying that there is

likely to be another slump at the close of the year. It is rather difficult to see on what they predicate this statement, for certainly the expositions have had little to do with the shipment of oil from the California fields.

That there will be an increasing and growing demand for oil is believed by all oil men who have studied the foreign situation. The war, of course, has had a deterrent effect on production, because it not only stopped a profitable market but it gave a risk to all shipped oil that went across to Europe. Industries are accommodating themselves to the new situation. Oil market is being regulated and conditions are being met in a way that will help the industry. If we add to this condition the fact that the war is bound to stop sometime, it will be seen that there is sure to come a betterment of conditions in the oil industry.

Optimists, and among them, than whom there is none greater, is Edison, are predicting boom times. Mr. Edison says we are going to have seven years of plenty following the seven lean years that have just passed. It is all right to try to find consolation in the old theory regarding seven fat and lean years told of in Holy Writ, but it is also well to remember that the present depression in business has lasted now since 1906, or nearly ten years. To even matters up we should have ten, rather than seven years of prosperity.

As a result of this optimistic feeling engendered by such statements there is an effort to induce shy speculators and investors to take their good money out of their safe deposit boxes, old socks and other hiding places and put it in stocks. Boom literature has already made its appearance and is being sent to the sucker lists all over the country.

This literature is bad and should be frowned upon by all reputable oil men. Let the betterment of condition come legitimately, not through a feverish excitement due to the investing of money in unsafe schemes. If the literature were truthful it would be all right, but the trouble of most of it lies in the fact that statements are made that cannot be borne out by facts.

The oil industry is slowly recovering from its period of depression, and we want no set of promoters to give it a set back by reaping a harvest of unholy dollars because things look a little better. We still have a hard row to hoe, and it is well to look things in the face and hope for the best while we prepare for the worst. It will be noticed that all of the big operating companies are getting ready to push their work of operation and that means that when the time comes they will not be caught napping, while the little fellow who is now spending his time talking will be, as usual, several jumps behind the times when the great day comes.

Instructing the Oil Men

State Oil and Gas Supervisor R. P. McLaughlin, addressed a gathering of about sixty oil men, representing the larger oil and gas producing companies recently, and discussed the practical application of the new law regulating drilling and maintenance of petroleum and gas wells throughout the state.

Supervisor McLaughlin made it clear that while the law provides drastic measures in meeting the question it is the aim of the officials to work hand in hand with the producer and eliminate "red tape" and officialdom. A reasonable compliance with the new law will be required, but the main object is to secure protection for the oil fields and not to impose numerous useless conditions and restrictions where none are needed.

To handle the subject, the department of petroleum and gas has been created under the supervision of the State Mining Bureau. At the head of the new department is the supervisor, appointed for four years at a salary of \$4500 per year. Not less than four deputies, to be appointed by the supervisor, are provided for.

The oil operators will be required to furnish the department with detailed records monthly of operation of wells, including the number operated and the amount and gravity of oil produced. A minimum penalty of \$100 fine is provided for failure to comply with the provision. The reports are to be confidential and may not be used or produced as evidence in court except in certain prescribed cases.

The new law provides that all wells shall have metal casing, which shall effectually prevent water from entering the field. The provision applies to all wells in operation and all wells which may be drilled in the future.

Before starting to drill or re-drill a well, written notice must be furnished the department giving details of the proposed work. During the drilling a record of the work shall be kept and information given the department from time to time as requested. Five days' notice must be furnished before shutting off the water in any such well and the deputies are charged with being present at the test for shut-off.

Provision is made in the statute that assessments be levied on all oil property, both productive and non-productive, and the fund so levied be used in carrying on the work of the department and for providing for an emergency fund of from \$5000 to \$25,000 in each of the territories under the direction of a deputy. The latter fund to be used in making the necessary repairs, where the owner refuses to do the work. The cost of the work then becomes a lien on the property.

Gas wells, in a district where there are no petroleum wells, are not to be assessed, and non-productive but oil-bearing land may not be assessed for more than 10 per cent of the total assessment levied for the support of the department. The rate of assessment is to be determined by the State Board of Control. A tax per barrel on all oil products will also be levied and paid into the state treasury. The brunt of the expense of the department will be met by the latter tax.

Mr. McLaughlin is a practical oil man, having been in the employ of the Associated Oil Co. for several years as an expert and has been in the employ of the State Mining Bureau for the past three years.

V. R. Garfias, of Stanford University, has published a most interesting and enlightening monograph on the oil region of northeastern Mexico. The pamphlet gives a thorough idea of the geologic formation of that part of Mexico where lies the greater part of the petroliferous area, and its detail is a valuable addition to every oil man's library.

Gambling, Apparently Human Instinct

Ever since the days when the prophet foretold the casting of lots to decide the ownership of the Savior's clothing we have record of gambling. Every red blooded man likes to take a chance. Were this not true there would be little enterprise and little progress. There would be no prospecting for oil or mineral, and the day of the promoter would be gone.

Gambling seems to be a pimal instinct in man and the most current phrase on human lips during an argument is "I'll bet you—". Possibly there is no intention whatever of making a wager, but that seems to be the clinching argument and indicates the readiness to take a chance.

Preachers may denounce the evil, courts may frown on it, good men forbid it, but it is as common as business, and when it comes to that there is no business but has its modicum of chance, consequently its bordering upon a gamble. Even the farmer gambles with the weather for the size of his crops and with the market for his prices that mean profit or loss.

From the poor woman struggling to make both ends meet who ventures her last twenty-five cents in a lottery to the emperor who risks millions of lives in a desperate gamble to retain his crown, it is all the same, and all the pulpit denunciation, all the legal objections will not stop it. Man wants to take a chance to increase his worldly goods, and whether it be through a lottery that is not a game of chance at all for no one has a chance to win, or the gambling in stocks, a game where respectability sanctions transactions that a card gambler would frown upon and refuse to be party to, it is all the same, and no power on earth can stop it until man has lost his ambition.

It is only the failure in gambling who is censured, just as a failure is always censured. The fortunate stock gambler—the one who is the best guesser, is looked up to and fawned upon, just as success is always looked up to. It is a verification of the old saying of the poet:

"Success, no matter how acquired,

Makes villains honest and fools admired."

This is not intended as a defense of gambling, but rather a defense of the gambling of men who can no more help it than they can help eating when they are hungry. It was born in the blood, and whether it be the farmer who puts in extra large acreage of wheat because there is a war in Europe and he believes his grain will be harvested and sold before the war ends, or the stock gambler who trades on the possibilities of the war sending up the price of material of companies whose stocks are on the market, it is as natural as is the desire to better one's condition.

The man who is content with his lot is non-progressive and has no further ambition in life. It is the discontented man who overcomes the wilderness, who discovers the mines, who explores barren lands and brings forth oil. These men are all gamblers and when they "make good" they are looked upon as benefactors of mankind. When they fail they are frowned upon as non-success is always frowned upon.

Were it not for this gambling instinct the stock pro-

moter would have a hard time making a living. He finds the desire for sudden and large gain in most unexpected places. Ministers, school teachers, miserly old men and women, all are found among the victims of the promoter who has the least to offer. They buy his stock because of the glowing tales of enormous riches that others have gained by buying stock that was cheap.

Just at present there is a spasm of righteousness in San Francisco over the "Lottery Evil." The evil lies more in the brazen violation of the law than in the evil done to the individual or the community through the taking of earnings. Weird stories of men and women spending all of their earnings for lottery tickets make exciting reading but do not have the earmarks of truth. The lottery evil in San Francisco lies in the fact that notwithstanding the fact that we have supposedly stringent laws against this specific form of gambling, it is the most open of all and flaunts itself even at the doors of the churches, before the very eyes of the sworn guardians of the law. It waylays you on the streets both by day and by night, and is so brazen that one idea predominates when we consider it seriously, and that is that our police force must be heavily bribed or it would never connive so openly with this pest.

One form of gambling that should be as severely frowned upon as the lottery gambling, is gambling in oil stocks. The Derrick is in receipt of letters nearly every day asking information regarding certain oil companies in which the writers are stockholders. They tell how they have bought their stock and then have failed to hear any further from the company. In nearly every instance these letters come from people whom their closest friends would never accuse of having the gambling instinct. It is because of their having the instinct coupled with a sense of shame that makes them easy prey for the promoter. He plays on their desire for gain and at the same time counts on their desire for secrecy to protect himself.

The Derrick is willing at all times to help these poor victims get redress if possible but the chance is very small, for by the time the call for information comes the promoters of the schemes have changed their bases of operation and their names as well.

The Derrick has this advice to give to all who want to invest their money with a chance of big return: Make your inquiries and investigations before making the purchase. The Derrick stands ready to do what it can to put you on the right track, and it is so much more profitable to find out whether a company is good or bad before you have given it your money, that there can be no question as to the best time to investigate. If it is a good company it will bear investigation and the stock sale will wait.

After Hawaiian Business.

C. L. Coppage, sales manager of refined products of the Associated Oil Company, sailed on the Matsonia for Honolulu on October 6. The demand for gasoline has increased so greatly on the islands that the Associated will install additional facilities for distribution of its products, and greatly enlarge its Honolulu plant. Coppage will remain in the islands for several weeks looking after the installation work.

With the Ocean Fuel Burners

Two Big Tankers Coming.

The two big Norwegian tankers, Maricopa and Bellridge, which are under charter by the General Petroleum Company, and which have been undergoing trying times in the war zone, are now enroute to the Pacific Coast, where they will be used by the General Petroleum, possibly in its South American business.

Union Iron Works to Build Submarines.

When Mr. McGregor went to Washington to bid on the new war vessels it was generally conceded that he would bring home the goods. He has not disappointed those who have faith in him, for the Union Iron Works gets a contract to build five or more submarines at \$510,000 each. Vessels to be completed, the first within 12 months and the others 2 each year thereafter. The Union Iron Works made the lowest bid.

New Motor Ship Coming.

The Swedish motor ship Pacific has sailed from Gothenburg for San Francisco and is expected here in time to load for her return voyage in November. The cable announcing the departure of the Pacific reached San Francisco several days after the ship sailed, owing to the idea of some British censor that the message held something suspicious. The Pacific brings a full cargo of general merchandise. She will stop at Acapulco enroute to pick up a consignment of coffee.

Shell Will Start Tank Line.

It is announced by the Shell Oil Company that on January 1, 1916, it will inaugurate its steamer tank service out of Martinez. According to the reports current at Martinez ten steamers that have been tied up in the North Sea since the beginning of the war will be employed in the company's foreign and domestic service. Two steel tanks with capacity of 55,000 barrels are being erected at the Mare Island Navy Yard for the reception of fuel oil and the first use of the Shell's transport line will be a boat to carry fuel oil to the navy yard.

Two More Vessels With Oil Engines.

Christoffer Rannevig, of Christiania, Norway, is a firm believer in the efficacy of oil burning engines on ships, and so well has he been satisfied with the two tankers built by the Baltimore Dry Docks and Ship Building Company, fitted with Bolinder motors, that he has given an order for two more vessels of the same type.

The adoption of the Bolinder engines is said to have been the result of work of these engines on the steamers Elfleda, Pingal and Lota, all of which have been on the Atlantic run between Norway and the United States.

Builds Harbor Reservoir.

Both the General Petroleum Company and the Standard Oil Company see the necessity of recognizing the importance of the harbor of San Pedro and both are making arrangements for supplying the demand for fuel oil to ships at that port.

The plans of the General Petroleum include a ce-

ment reservoir with a capacity of 500,000 barrels at its present station. This reservoir will be built on the waterfront and ships will be supplied from it by pipes running out on the government breakwater.

Seven acres of the San Pedro harbor front have been leased by the Standard Oil Company, and on this ground will be established a complete loading station and marine supply depot.

War Holds Back Construction.

A number of oil burning ocean-going vessels are under construction in British shipyards, but the construction is being held back by the war. Among these ships is the Montezuma, a vessel of 5300 tons gross, being built by Harland & Wolfe, Ltd., of Belfast, for Elder, Dempster & Co., Ltd. All of the previous oil engined vessels built by Elder, Dempster & Co. Ltd., have been of the small coaster class.

The new vessel Montezuma is therefore noteworthy in that she is the first ocean-going motor ship to be constructed for the owners. She is 435 feet in length by 67 feet 6 inches beam, and has a moulded depth of 377 feet. The propelling machinery consists of two six-cylinder, four-cycle Burmeister & Wain Diesels, which develop their power at 110 r. p. m. The motors are each of 1800 i. h. p. at normal speed, and are of same design as the many Burmeister & Wain installations fitted within the last two years in the vessels of the East Asiatic Company, Copenhagen. The construction of the Montezuma is now well forward.

Oil Burner Launched.

Pressing a button at Bethlehem, Pa., Mrs. Charles Schwab sent a current of electricity across the continent that released from the ways at the Union Iron Works, in San Francisco, the new cargo steamer Eurania, and as the boat slid from its mooring, Mrs. John A. McGregor christened it with the customary bottle of champagne. The ship is named for Mrs. Schwab, whose first name is Eurania.

While it has been understood that the Eurania would be purchased by Hind, Rolph & Co., she was built by the Union Iron Works with the intention of sale after completion, the demand for freight carriers warranting this departure from regular custom. The Eurania is a sister ship of the Annette Rolph. She is 400 feet in length, draws 25 feet 9 inches and will carry 9000 tons dead weight of cargo.

The oil-burning system which will be installed is that which was devised by the Union Iron Works and is now in almost universal use. The Eurania was built on the new Isherwood system of longitudinal construction.

More Tankers Torpedoed.

The Review is officially informed of the loss of the oil tankers "Caucasian" and "Daghestan." The former vessel, the managers for which were Messrs. Lane & Macandrew, had a capacity of nearly 7,000 tons of oil, and was torpedoed some weeks ago by an enemy submarine. The "Caucasian" was built at Sunderland some sixteen years ago, and was owned by the Petroleum Steamship Company, Ltd., of London.

The "Daghestan," which was built twenty years

ago on the Tyne, was owned by the Societe Anonyme d'Armement, d'Industrie et de Commerce, and flew the Belgian flag. The vessel was torpedoed a few days ago and sunk. The crew was saved.

During the present week the oil tanker s. s. "Silvia," owned by the Oil Tank Steamship Company, Ltd., of which Messrs. C. T. Browning & Co., Ltd., are the managers, has been destroyed by an enemy torpedo. The "Silvia" is one of the latest types of bulk oil carriers, and was constructed on the Tyne but two years ago, the gross tonnage being 5,268. She was on government service at the time of her destruction; the crew was saved. This is the second oil tanker which Messrs. Browning have lost since the commencement of the war, the first vessel being the "Elsinore," which was sunk by an enemy cruiser in the Pacific in the early stages of the present conflict.—London Petroleum Review, Aug. 28.

First Motor Vessel at Amoy.

Consul Lester Maynard, at Amoy, China, writes to the department at Washington regarding the arrival of the first motor vessel at that port. He says:

On July 7th the motor vessel Panama reached Amoy with a consignment of kerosene for the local agents of a Texas oil company. The arrival of this vessel occasioned considerable interest, as it is the first motor vessel that ever visited this port.

The Panama was completed in March of this year, and is owned by the East Asiatic Co., of Copenhagen, Denmark. The vessel is 427 feet long, 55 feet beam, and 38 1-2 feet depth, with a carrying capacity of 9,000 tons, and was built at a cost of \$400,000. It is equipped with two 1,750-horsepower Diesel engines, three auxiliary engines for lights, electrically driven winches, electrically driven steering gear, and an air compressor. Since, at a 12-knot speed, 11 tons of crude oil are consumed in 24 hours, the boat's fuel capacity of 1,180 tons of crude oil is sufficient to carry it 30,000 miles.

This vessel started from Port Arthur, Tex., on its initial voyage with a shipment of 230,000 cases of oil, the cases containing two tins of 5 gallons each. The freight on this oil is stated to have been about \$135,000 United States currency, which is one-third the cost of the vessel. The bulk of the shipment was discharged at Hongkong for distribution to Canton and interior points, and 50,000 cases were unloaded at Amoy.

Freight on oil from the United States to Amoy has greatly advanced since the outbreak of the European war, the former price of 21 cents United States currency per case having now advanced to 59 cents per case. With the large stocks on hand belonging to competing companies and the high freight rate which has been paid on this shipment it is difficult to understand how the market can absorb this large consignment without cutting prices to the losing point.

The Panama sailed from Amoy on July 12, without cargo, for Vladivostok.

Protests Against State Duties.

That the State of Washington is violating the Federal constitution by the unjust imposition of import duties is the claim made by the Standard Oil Company in a suit instituted against the State Commissioner of Agriculture of Washington, recently filed in the Kings County Superior Court of that state. The suit wishes to restrain the commissioner from col-

lecting fees for inspection of oil products shipped into Washington from California.

The complaint alleges that the amount collected between June 30, 1905 and Dec. 31, 1914, was \$335,000 while the total cost of the inspection was but \$80,000, leaving a profit to the state of 225,000. This profit, the complaint alleges, makes the fees illegal, as they amount, virtually, to the imposition by the state of import duties, being on interstate commerce and in violation of the Federal constitution.

The court issued an order citing the commissioner of agriculture to show cause on October 14 why a restraining order should not be issued. Pending the adjudication of the case the inspection fees will be paid into the court.

Gasoline Goes Up.

The long downward trend of gasoline prices has evidently reached bottom. Price of the fluid was raised during the last week of September half a cent, and it is now retailing at 11 1-2 cents a gallon.

Oil Land Suits in October.

The next step of the government suits to recover 154,197 acres of Kern county lands held by the Southern Pacific Company, and for which the company received patents many years ago, will be the trial of six withdrawal suits before Judge Bledsoe, at Fresno on October 18. The land which the government seeks to reclaim consists of 40,970 acres, being part of the acreage that is embraced in the six suits to be tried in Los Angeles next November. Judge Bledsoe heard arguments on these six withdrawal suits last May. The only question involved is whether the Southern Pacific entered upon the land in controversy in spite of the withdrawal order of President Taft, of September, 1909, which order has been upheld by the Supreme Court.

Big Land Suits Filed.

Suits involving land valued at a million dollars have been filed before the United States Court at Los Angeles, against the Standard, Midway Pacific, United, Brookshire and Monterey Oil Companies, the General Petroleum Company, the Calidon Petroleum Company, Title Insurance and Trust Company, F. D. Burge, the F. D. Burge Oil Company and John Lawson.

Each suit involves a quarter section of land in Kern county, on which the government seeks accounting, injunctions and receiverships. The government charges that the defendants, in defiance of an executive withdrawal order of September 27, 1909, appropriated the lands and exploited them for petroleum and gas.

It is charged that the Brookshire and the Union Pacific Oil companies gained possession first and have been selling the output to the Standard Oil Company. Also that the United Oil Company transferred to the Standard a trust deed to secure payment of \$250,000 to C. P. Campbell, which has never been satisfied. Also that the General Pipe Line properties, when a right of way for pipe line, was obtained from the Brookshire Oil Company.

The land in dispute is situated in Kern county, California, comprising three-quarters of section 24, 31-22. The government alleges that a large quantity of petroleum and gas has been produced, the exact amount of which is unknown.

California Derrick

The Oil Authority of the Pacific Coast

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

An Indignant Stockholder.

One of the friends of the Derrick, who resides in Albany, New York, has written a letter to this paper in which he voices his indignation at the way things have been run here by irresponsible oil companies. He is not only indignant but he is right, and the only consolation we have to offer him is the fact that under present laws and regulations the schemer will have to seek new fields for California no longer permits the formation of companies without proper legal surroundings. The letter of our friend is worthy of reproduction and this is it

"Dear Editor:

"I see by your issue of August that the Gate City Oil Co., sold out to other interests. I wonder if that is the same company which merged into the Seaboard Oil and Transit Company. If so why should they sell without action of the stockholders. It looks to me that the oil companies of your state need a 'jacking up.' Many make no efforts at financing or the election of officers, and commit other offenses against the law.

"Why don't you form a stockholders committee and get after such companies as the Seaboard, Palmer Union, etc.

"Yours in fair play."

For the information of our friend the Derrick will say that many of the oil companies that sold stock to the unsuspecting public in the east, have gone out of business. Their only business was to sell the stock and when that was accomplished their business was finished. Other companies started with good intentions, which, you know, paves a warmer country than California, and also fair prospects, but they eventually fell

by the wayside because of irregularities of their officers and lack of finances. These companies gave up the ghost after struggling against adverse circumstances and the stockholders, as usual, held the bag.

Such companies as the Seaboard and the Palmer Union, have been in trouble for some time, and their officers and receivers are trying to get something out of the wreck. The merging of other companies into the Seaboard was not beneficial to either the merging company or to the Seaboard, but the procedure protected the innocent stockholders, who, under California law, were liable for the face of their stock in the payment of the company's debts.

As to the organization of a stockholders' committee, that is not in the province of the Derrick, but if our correspondent will form such a committee we shall be pleased to give it all of the help in our power and will constitute ourself its organ for the furtherance of its work of cleaning up the dirty linen of oildom so far as fly-by-night companies are concerned.

It is a fortunate matter for the guillible investor, who sees visions of millions of dollars coming from the investment of a few cents, that under present California laws it will have to be a very smart clique of promoters who can foist bad stock on the unsuspecting public, with the representation that the stock is based on a California oil well. Hereafter the grafter will have to devise new methods of fleecing the unwary, and it might be well for those who desire to make money from the great boom in oil that is on the cards, to look well into the merits of every proposition that is placed before them.

In this they will have an invaluable ally in the Derrick, and we stand ready at all times to investigate any company and report on it and on the advisability of investing in it. We are as much interested in stopping this graft as are those whose meager savings are taken to keep it going, and if any reader of the Derrick will write to us about any proposition that has been presented to him for investment, we shall be pleased to make an investigation and give an unbiased and correct report, either through the columns of the Derrick or by private mail, and no charge will be made for this service, which we think is due from us for the good of the oil business.

It should be remembered in this connection that there are numerous companies that have hard luck and are struggling along without paying, but which have every prospect of making good from their properties, and because a company has not made good is no reason why it should be elassed with the grafting companies that never had and never will have oil land. The oil business has been bad for several years past, but now there is light ahead and those who have stock should be patient a little longer and there is a chance for returns.

Another Anxious Inquirer.

A Derrick reader has written us to know what has become of the Section Six Oil Company. He says that it was a dividend payer for a while but for some time he has been unable to get any information.

Section Six was a good company, but it went into that mansoleum of a number of good companies, the Seaboard Oil and Transit company, and has been lost in the shuffle. Unfortunately for the stockholders of these absorbed companies, the men who have charge of the affairs of the Seaboard are not disposed to take those who are interested into their confidence.

From what the Derrick can learn several of the com-

panies that were merged with the Seaboard were disposed of by the officers without the stockholders being consulted. It might not be a bad idea for the stockholders of some company to get together and find out just what the process was that bereft them of their company.

Mexican Premier is Waiting.

A Derrick subscriber up in Canada writes to inquire regarding the condition of the Mexican Premier Oil Company, of which Tim Spellacy is president. In answer to this inquiry we quote the following letter received from J. E. Spellacy, secretary of the company, which is written in answer to our inquiry at headquarters of the company:

"Your letter of inquiry September 30th at hand this morning. Relative to the reported sale of the Mexican property I beg to say that in this particular instance we have arrived at nothing further than the preliminaries, which we hope may lead up to the consummation of a successful deal. I beg to add that it does not pertain to the Mexican Premier holdings, but to a property known as the Panuca Excelsior Oil Company, comprising something over 800 acres near the town of Panuca on the Panuca River.

"On account of the disturbed conditions in the southern field we have done nothing for probably two years with the well which we started on the Mexican Premier property. Our intention is when conditions become more peaceful in that particular locality to proceed to complete it. We hope this may not be long delayed as we are very anxious to determine what is there for ourselves and the stockholders."

The property mentioned in the letter on which there is a deal is the property recently noted in press dispatches which said that Tim Spellacy was selling his Mexican holdings to an Eastern syndicate. There is no question as to the disturbed conditions in Mexico, and the only advice the Derrick has to give to holders of stock in the Mexican Premier is to possess their souls with patience and hope for an early solution of the Mexican dissensions.

We believe the properties are good and that, on development, they will show some fine results for those who hold to their faith.

Signs of Improvement.

One of the first signs of improvement of the oil situation has come in the advance of prices of naphtha and gasoline, recently announced by the Standard Oil Company. Naturally an advance in crude was looked for, and because it did not materialize immediately the calamity howlers began their usual song of lament and denounced the big company because it was taking all the profits.

It is difficult to please everybody. When crude at well prices went up and gasoline went down the little refiners denounced the Standard because their profits were cut. Now when gasoline prices go up there is an immediate evidence of dissatisfaction on part of the little producers because they do not share in the profits.

As a matter of fact, there is a steadily increasing demand for refined products, especially gasoline and naphtha. This demand has been growing for some time, and as a result the stored oil has been decreased to meet the demand of the refiners, with the result that it will be but a short time until the demand will

have passed the safety mark in storage and there will follow the increased demand for oil at the wells.

The Derrick has been predicting this advance for the past three months. It is the natural sequence of events that are transpiring all over the world. When one considers the enormous demand for petroleum and its refined products in Europe at the present time, and remembers that this demand must be met almost entirely by America, there can be but one conclusion and that is that all our stored oil and all of the oil we can produce will soon be insufficient to meet the demand.

The advance in gasoline price is but the forerunner of a general advance all along the line.

An Ambiguous Case.

Certain attacks upon certain men can be ignored because of the bad reputation of the attacking party and the well founded good reputation of the party attacked.

Certain other attacks can be ignored because of the obvious absurdity of the charges made.

But there are certain charges that must be refuted, no matter by whom made or against whom they may be leveled.

Of this class is the article which recently appeared in the California Oil World against A. E. Case and the Case Mineral and Petroleum Company. These charges are so serious that they cannot be ignored, and in the interests of the readers of the Derrick who may be inclined to become investors in companies involved, a letter was written to Case asking for a statement of fact and conditions from his side.

Case permits the matter to go against him by default. He answers our letter by most ambiguous statements, and falls back on his "well known reputation" and upon the records of the courts, to sustain his decision to ignore the charges.

In brief the charges cast such reflection upon Case and his company that until they are refuted investors would do well to refrain from lending assistance to his schemes, no matter how meritorious they may be made to appear, and no matter what high ground of honesty Case may claim.

When Commissioner of Corporations Carnahan granted the temporary permit to sell stock in Case's company he did so with the stipulation that the permit be shown to each prospective purchaser in order that he might have a complete knowledge of the conditions surrounding the Case Mineral & Petroleum Company. This stipulation, of itself, casts doubt upon the honesty of the enterprise and it is well to pass the word along to let this stock alone until such time as the provisions of the permit are changed.

Denies Oil Rate Competition.

W. A. Worthington, vice-president of the Southern Pacific Company, gave an important bit of testimony recently before Interstate Commerce Commissioner, at Chicago, regarding the alleged competition in oil rates between rail and water from California to northern ports. This hearing came from the recent order calling upon the railroad to sell its holdings in the Associated Oil Company, under the Panama Canal Act. The witness said the reason there was no competition was because the rates were too low for the railroad to desire the business.

Something New in Oil Development

The DERRICK is in receipt of a number of letters asking information regarding different projects pertaining to oil investments, and recently received the following from a subscriber in Alameda county:

"Editor California Derrick,
509 Sansome Street,
San Francisco, Cal.

"Dear Sir:

"I have been approached by a man offering to sell me some lots in what is called the 'Co-Operative Oil Land Subdivision Company,' said to have property in San Luis Obispo county, and operating through the Giffin Sales Company, with offices in the Humboldt Bank Building in San Francisco.

"I shall appreciate very highly any information you may give me regarding this company and its proposition."

Following its established policy of a fair investigation of any project before committing itself to an answer, the Editor of the Derrick called at the offices of the Giffin Sales Company and asked for information regarding the objects and purposes of the Co-Operative Oil Land Subdivision Company, and requesting that the Derrick be put in full possession of all facts with which to answer inquiries.

In response to this request all of the maps, plats, printed matter and sales and cash books of the company were exposed, with a verbal statement from the president of the Giffin Sales Company, which is in no way connected with the Co-Operative Land Company in any capacity other than sales agent, consequently his statements do not bear the personal interest of one of the projectors or promoters of the project.

Following this personal investigation verifications were made of geological and scientific statements, purporting to come from the State Mineralogical Department, and from experts whose reports were shown. From this investigation we have deduced the following which we believe to be a true exposition and statement of the proposition.

The Co-Operative Oil Land Subdivision Company owns in fee and under contract some fifteen hundred acres of land situated in San Luis Obispo county, California, in an unproven oil district. This land has been platted for subdivision into lots containing 2500 square feet each, which lots are offered for sale at \$20 each, payable \$4 cash on delivery of contract and the balance \$1 a month until the entire amount is paid. Upon payment of the entire amount a warranty deed is given the purchaser who can then do as he pleases with his lot, for it is his absolutely.

In addition to selling this lot the company gives in the deed and contract, a contract guaranteeing to the purchasers of the lots 75 per cent of the net profits arising from any and all oil wells sunk by the company

on the entire tract. It is further stipulated that of the moneys paid in for the lots not less than 25 per cent shall be set aside as a development fund which will be applied consistently and steadily to the exploitation of the oil possibilities on the property.

A further stipulation, and one that carries some weight as a protective measure, is that should it be found that the property is not an oil bearing region, the entire tract, which includes 1,800 acres of government range land enclosed in the same fence, may be converted into a co-operative cattle ranch, and the profits coming from such business apply to the lot owners in the same manner as profits arising from oil development would be applied.

The usual default clause is inserted in the contract, but there is in addition a saving clause which returns to the family of the purchaser all the moneys paid in prior to the payment of \$10, in the event of the death of the purchaser, and giving a full deed in warranty to the family in the event of such death occurring after the payment of \$10.

It is specifically stated by the sales agent that no intention is had of selling these lots under any pretense of big present value. This land is part of a vast development plan which has for its object the exploitation of an unproven oil field. Without such development, or without the conversion into a cattle ranch this 2,500 square feet of land, taken by itself, is probably only of small value. This is plainly set forth by the agency, and is an evidence of the honesty of the proposition.

Naturally the question arises in the minds of the prospective purchaser of this land as to the probability of the investment meaning more than a failure. On what is based the supposition that oil may be found underlying this property? What certainty has the investor that a percentage of the purchase price will be utilized for oil development? Why has the company started its operations in an unproven field rather than in a proven one? If oil be found in commercial quantities how much will the individual lot owner get out of it?

Investigation shows that the proposition is based on more than a possibility of success from an oil development standpoint, for the land lies in a territory almost surrounded by known and proven oil fields of highest importance in the state. It is situated thirty miles east of Paso Robles; it is twenty-five miles northwest of the McKittrick district; it is twenty-five miles south of the Coalinga field; it is twenty-five miles west of the Lost Hills district; it is fifteen miles northeast of the Santa Margarita field; it is ten miles southwest of the Parkfield district. In other words, it is surrounded, practically, by the best oil fields of the state and on the property of the company are the same outcroppings, the

same geological formation of sandstone and shales and the same type of antiline, all indication of an oil bearing stratum under the property.

In corroboration of these surface and positional indications is the Geological map of California, published by the California State Mining Bureau in 1914, which shows that this property lies in the center of an enormous valley of Monterey sandstone shale and Monterey shale, which it is well recognized is the ideal location for oil bearing land.

In addition to this is the statement of F. McMillan, who has operated as Mining Engineer in California for thirty-seven years, and who has reported on the entire oil bearing area of the Pacific Coast. Mr. McMillan says:

"I am convinced from my investigations that the oil measures in that portion of San Luis Obispo county, where your property is located, possess great thickness, thereby carrying much oil, and where proper reepectables for the accumulation of oil have occurred the probabilities of developing oil in commercial quantities are most excellent. Consequently the development of oil in paying quantities in that portion of San Luis Obispo county can only be definitely settled by sinking development wells."

From the personal knowledge of the writer of this article, the district east of Paso Robles has long been looked upon as one of great promise as a profitable oil field. This, in connection with the above statements, answer the first of the enumerated queries.

In answer to the second query, an inquiry at the Humboldt Bank in San Francisco disclosed the fact that an account had been opened for the depository of development money and the designation of the bank as such depository had been accepted with the understanding that the money so deposited could be drawn out only for the purposes specified. At the bank was ready for inspection of any bona fide purchaser books showing the actual deposit of such moneys, and at the office of the Giffin Sales Company the books showed all receipts and expenditures, giving the exact amount set aside in each instance for development purposes. Everything was open and aboveboard, without slightest attempt at concealment, and each purchaser will be given the same courtesy.

Why has the company started its operations in an unproven field?

All oil fields are unproven until wells are sunk. One needs but look at a picture of the Kern district and compare it with the same field ten years ago. Then it was unproven. Now there is a derrick on every available piece of ground, and the field looks like a forest. Proven oil land is high in its value; unproven land is low. To begin operations in a proven field would mean the outlay of an enormous amount of cash for land, with a consequent large increase in the value placed on the individual lots. In an unproven district the land is low until the oil is found and then comes an increase in values, many times running into thousands of dollars per acre. If oil be found underlying the land of the Co-Operative Oil Land Subdivision Company the lots that are now sold at \$20 each will increase in value many times that amount simply from their being located in a proven district.

How much will the individual lot owner get?

A question impossible of answer. It depends upon the amount of oil, of grade of oil, of proximity of lot to the producing well and of the ability of the lot owner to put down a well on his own property, which he has a perfect right to do, and which entitles him to all the oil he produces regardless of the profit arising from the company's development. In a general way this question may be answered by saying that if oil is struck the lot owner will be well repaid for his small outlay.

The purchaser of a lot or of a number of lots of this property has the advantage over the purchaser of shares in an oil company, in that he is not liable for any assessment, nor is he liable for any forfeiture of his holding through non-payment of assessment to carry on the work. When he buys his lot or lots he buys the property outright and with it buys a profit-sharing ownership in all oil wells that may be sunk on the tract by the company. If there is a lack of money he need not fear being called upon to make good.

It is this feature of non-assessment that is most appealing in this sort of speculation. The money paid is for a tangible piece of property and an intangible portion of possible profit. None of the money goes to the payment of salaries of officials, for the officials of the company do not draw salaries. They look to their profits in the making of profits for the lot purchasers and in the increase in value of their holdings in the event of striking oil.

Summing up the conclusions reached after this investigation, and in answer to the letters received, the Derrick finds that the Co-Operative Oil Land Subdivision Company is operated on an honest basis, under honest and capable management; money is accumulating in the Humboldt Bank for the development of the lands as oil bearing properties; the company has unquestioned title to these lands; the lands have great geologic possibilities as oil bearing.

As to the probabilities for the investment being successful from a financial standpoint, the Derrick believes that there is as good prospect of developing oil in this district as there ever was in any unproven field. If such oil be developed the individual lot owner will share in 75 per cent of the profit made therefrom. It stands to reason that the amount of profit to the individual lot owner will be relatively small, because his holding and investment is small, but there is no question that he has an advantage over the owner of shares in an exploring company, in that his investment will bring equal returns in the event of success while in the case of failure there is no possibility of assessment.

To all inquirers the Derrick has no hesitancy in saying that in the case of the Co-Operative Oil Land Subdivision Company the investment, as an investment, is speculative, but as a speculation is better than a similar expenditure in any shares of stock in an oil company that has not proven its property with producing wells. It believes this for the reason that the location of the property in relation to pipe lines makes the marketing of possible oil easy, and for the further reason that geological formation and surface indications give every indication of an oil bearing region. Not only this, but the investor or speculator knows exactly how much money he will be called upon to pay, and when he buys his lot he buys an additional prospect of profit, together with a tax-free property for the ensuing three years, at the end of which time the land will have shown either its value or its worthlessness.

CALIFORNIA CONCENTRATES

The Associated Oil Company is preparing to spend \$22,000 at Modesto, Cal., on a new plant.

The derriek is up for drilling on No. 10 well of the St. Helena Petroleum Company, Ltd.

It is reported that the General Petroleum Company is preparing to drill six new wells in the Midway field.

The Columbia Oil Company is drilling its No. 25 on the old Olinda section of Fullerton.

No. 3 well of the Kern Trading and Oil Company, on section 15, 32-24, is down 2840 feet with a string of 8 1-4 inch casing landed and the water cemented off.

Providential wells Nos. 2 and 3, are still producing steadily and arrangements are under way to drill Nos. 4 and 5.

During the month of June vessels engaged in foreign trade took fuel oil for their own use at American ports to the amount of 240,904 barrels.

The Union Oil Company is preparing to erect large storage tanks on the Southern Pacific reservation at Bakersfield.

The Superior Oil Company, of Texas, has leased several tracts near Ortung, Wash., and will begin exploring for oil at once.

No. 7 well of the St. Helena Petroleum Company, Ltd., which came in two months ago, is being deepened in hopes that it will increase production.

No. 9 well of the St. Helena Petroleum Company, Ltd., on section 16, 32-34, in the Buena Vista Hills, is flowing 1000 barrels a day. It came in at 2800 feet.

The Tumbador Oil Company, operating eleven wells on section 32, 31-22, Taft, has contracted to sell its production to the Standard Oil Company.

At Taft the Standard Oil Company has started drilling a well on the northwest corner of section 10, 32-23, and to offset it the C. C. M. O. Co., has started drilling on the southeast corner of section 9, 32-23.

The Mammoth Oil Company on section 23, 31-23 in the Fellows district, has contracted for rotary work on its No. 8 well, which is to be put down in the near future.

The Gasoline Petroleum Company, of Phoenix, Ariz., has been incorporated with a capital of \$1,500,000. The incorporators are Lewis J. Ross, Milton Goodman and R. J. Terwilliger.

Associated Oil Company is preparing to drill a deep well on section 31, 28-29, Kern River Field, for the purpose of exploiting sands below the shallow ones now producing.

American Oil Fields Company has declared a dividend that calls for the disbursement of \$98,000. Most of this will go to the treasury of the California Petroleum Corporation.

The Western Union Oil Company has declared its October dividend at the rate of \$1 a share, payable October 27th, to stockholders of record on that day. There will be a disbursement of \$10,000.

The motor ship Suceia of the Johnson Line, reached San Francisco from Sweden late in September and got away with full cargo on October 7.

It is reported that the stock of oil belonging to the Associated Oil Company above ground has been reduced from 63,000,000 gallons of a few months ago, to 13,000,000 gallons.

The Interstate No 2 well, on section 4, 11-23, is being deepened in the hope of striking the gusher flow recently found by the Union in its International No. 3 well.

After a continuous struggle for many months to shut off the water in the Placentia Oil Company's well at the eastern end of La Habra Valley, the efforts have been rewarded and now the well is producing fifty barrels of 28 gravity oil daily.

The Kern Trading and Oil Company is preparing for the construction of a 6 5-8 inch electric welded gas line to extend from McKittrick district to section C, near Taft, a distance of 28 miles, the gas to be used for the operation of the company's wells.

The Cotton King Oil Company, of Phoenix, Ariz., has incorporated with a capitalization of \$25,000. The incorporators are Ed Sims, N. G. Stinson, J. E. Harrington, H. H. Sharpe, H. C. Brownier, F. A. Shaw and John F. Phillips.

The East Asiatic Company's big motor ship Siam reached San Francisco September 25, making the run from Sydney in 26 days in ballast. She took on a full cargo of barley and miscellaneous freight and sailed for Copenhagen.

The Derriek is in receipt of a most valuable compilation of companies and their operation in the Midway and Sunset fields, from Alfred Abbey, of Taft, California. Mr. Abbey compiles this information monthly and will furnish it to subscribers.

Standard Oil Company is to establish another subsidiary plant at Richmond, according to a report from that city. The new plant is for the purpose of manufacturing petrolatum and other medicinal petroleum products.

Permission has been granted the Premier Antioch Oil Company to sell 40,000 shares at 30 cents a share, to net not less than 90 per cent of the selling price. The company requires \$10,000 to complete its well on Contra Costa county leases, which is now down 650 feet.

The Ancient Beach Oil Company, which is going to try to find oil in the vicinity of the Salton Sink, is not trying to operate under false pretenses, for its application for a permit to sell stock says it is a speculation. This is the proper way to start a prospecting company, for every oil man knows that any enterprise in an undeveloped field is speculative.

Work of changing the locomotives of the Grand Trunk Pacific Railroad from coal to oil burners has been completed on the Pacific Division. It is a big gain to the oil industry and consequent loss to coal. It is said that as rapidly as possible all of the locomotives of this road will be changed to oil burners.

Oil Stocks Decrease.

According to the statistics of the Independent Oil Producers' Agency, stocks in this State fell off during August, and have increased only 1,000,000 barrels since January 1, 1915. Stocks on August 1st were 59,650,219 barrels, while August production was 7,680,047, making a total of 67,330,266. Against this, August shipments to the trade were 8,077,586 barrels, leaving stocks September 1st 59,252,680 barrels, a decrease during the month of 397,539 barrels. Stocks on January 1, 1915, were 58,259,119 barrels.

Production by districts follows:

District—	Gross Barrels	Daily Average			
		August	July	1914	
Kern River	791,445	25,530	24,929	19,801	
McKittrick	298,072	9,615	10,250	10,607	
Midway - Sunset	3,334,516	107,565	106,510	135,361	
Lost Hills - Belridge	376,200	12,136	12,189	13,220	
Coalinga	1,148,678	37,054	38,740	43,750	
Santa Maria	418,110	13,487	13,288	11,689	
Ventura-Newhall	86,885	2,803	2,998	2,586	
Los Angeles-Salt Lake	168,266	5,428	5,866	6,732	
Whittier - Fullerton	1,053,375	33,980	34,725	37,974	
Summerland	4,500	145	145	163	
Total	7,680,047	247,743	249,634	281,841	
July	7,738,643	249,634	.....	247,743	
Difference	58,596	1,891	.....	34,098	

Following are the daily averages:

	August	July	1914
Production	247,743	249,634	281,841
Shipments	260,567	246,550	258,825
Shortage	12,824	*3,084	*23,016
Oil Shut In	18,000	19,000	18,500
Potential Surplus	5,176	22,084	41,516
*Surplus.			

In commenting on the situation in the fields the Standard Oil authorities say that August operations were uneventful, with production showing little change from July, while shipments to the trade were consist-

ent with the figures published in the last two issues of the Standard Oil Bulletin.

It is pointed out in the report compiled for the September number of the Bulletin that there were only twelve wells completed in August. This, the report says, records the smallest number of wells completed in any one month since February, 1907, and is fully expressive of the general inactivity in the fields.

Summary of development ad production in all California fields for August follows:

Field	—WELLS—		Production Per Day
	Com- pleted	Pro- ducing	
Kern River .....	..	1678	25,282
McKittrick .....	..	277	9,787
Midway - Sunset	9	1413	107,162
Lost Hills - Belridge .....	..	249	12,043
Coalinga .....	..	798	37,341
Lompoc and Santa Maria .....	..	244	13,600
Ventura County and Newhall .....	..	442	2,714
Los Angeles and Salt Lake .....	..	688	5,286
Whittier - Fullerton	3	605	34,192
Summerland .....	..	102	135
Watsonville .....	..	5	75
Totals	12	6501	247,644
Total crude oil stocks, August 31, 1915		60,162,277	Barrels
Total shipments from fields, August, 1915 ...		7,924,656	Barrels

Union Oil Company Gets Medals.

Fourteen medals were accorded the Union Oil Company by the committee of awards at the Panama-Pacific International Exposition. An honor medal was given for the excellence of the general exhibit and a second honor medal was given for researches in the field of motor lubricants, while a third was given for improvement in distillation methods. In addition to these three honor medals eleven gold medals were given for various features of the exhibit.



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Standard Oil Co.

(CALIFORNIA)

"Governmental Injustice"

Under the caption "Governmental Injustice," the Standard Oil Bulletin for September prints an interesting analysis of the situation in regard to the government suits recently instituted for the recovery of oil land which has been taken up by bona fide explorers. The article is one that is well worthy of consideration by all who are interested in justice, and it would not be a bad thing to have every congressman receive a copy. The Derrick is so impressed with its importance that it reproduces it in full. It follows:

"During the last week four additional actions have been begun by the United States Government against operators of unpatented lands in the Midway Oil Field for possession of the property and for an accounting of the oil extracted. Following the practice in other actions, receivers are asked for in some of the cases to take the operation of the lands out of the hands of the producers pending the determination of the litigation.

As in prior cases, the lands involved have been highly developed, and by reason of the risk and expenditures of large sums have become immensely valuable. In this attack on operators of unpatented lands one looks in vain for the underlying purpose of the administration. The whole power of the Federal Government, both in its administrative phases in the Department of the Interior and in the courts through the Department of Justice, is apparently bent to the pursuit of the luckless miners and oil operators, who, whether illy advised or carelessly ignorant of the finer questions of law controlling the situation, have for the past six or seven years expended their fortunes in converting a desert into an empire.

Ten years ago the Midway Oil Field was scarcely known as such, and no more forbidding territory was to be found than the country stretching south and west of Bakersfield. Few ventured into this desert to conduct the uncertain and difficult search for oil. By 1908 the number had increased. By 1909 numerous operators were engaged either in actual drilling or in the requisite preliminary work. This involved the hauling of lumber and heavy machinery necessary to the drilling of oil wells to depths of 2500 or 3500 feet, in a country without roads, remote from railroad transportation, and to which wood and even water had to be brought from great distances. In many cases the operators failed to find oil, and it was not unusual to have expenditures of \$50,000, \$100,000 and even \$200,000 on single wells, result in "dry holes" and total loss.

The countless failure of those who sought to discover new petroleum sands and new oil areas in the public domain are represented by the investment of many millions of dollars. It is familiarly said that more money has been put into the Midway Field in barren lands than into those that have proved oil bearing. Many there were, on the other hand, whose courage and enterprise met with success. But what is to be their position now? Their great risks of failure, their enormous expenditure of time and money have been incurred in vain, if after having successfully run the gauntlet of the physical difficulties that have beset them, they find themselves confronted by political authority which, far from holding out a protecting hand, dashes their enterprise to the ground, and takes the product of their labor to itself. That this agency should be the Government itself, designed by the people

for the people, seems difficult to believe. Let there be no mistake that this relentless policy is in the interest of conservation. The purpose of conservation was served by those withdrawal orders which took from the field of private acquisition millions of acres of land. The lands involved in these activities have been drilled, and the production of oil therefrom is bound to proceed. Furthermore, in the known oil area the developed unpatented land is surrounded by patented territory, the operation of which will soon drain the unpatented lands, if the latter are not operated.

The production of oil from the unpatented lands in the Midway Field exceeded in 1914 fifteen million barrels of oil. The number of operating companies in that field alone exceeded one hundred and seventy-five. Through their stockholders it may be safely estimated that more than fifty thousand people are directly concerned in their operations. The mercantile and banking interests affected represent many thousands more. One sees these oil companies, most if not nearly all of them, existing only by virtue of a successful struggle for the discovery of oil on a small parcel of land, now going to the wall, facing bankruptcy and receiverships. The delinquent assessment list of the stockholders of one company alone covered over three newspaper columns, a company whose right to its land has not even been challenged, but which faces ruin founded on the fear that no unpatented land is safe from attack. Another company is confronted with the

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loss of its small holding of forty acres of land because, forsooth, it suspended work after an expenditure of over \$20,000, while searching for the further capital which it needed, and which was furnished to the extent of more than \$80,000, to complete the development of the quarter section.

Whence comes the call for this harsh enforcement of the letter of the law?—for its strictest construction?—for its application to the confiscation of investments and properties built up by indescribable effort and under conditions of hardship and discouragement unparalleled even in this Western country of pioneers? What is it the Government needs? Does a wise political economy demand that men who turned 50,000 or more acres of desert, on which neither man nor beast could live for a day, into the richest territory in the State, must be driven out and their investment seized? No gang of smugglers, no band of counterfeiters, no violators of the laws of our country were ever treated to the law's severities with greater harshness or more vigor. But why?

The Government's activities against the oil men are founded almost entirely on the charge that development of these lands was not in progress at the time of the withdrawal order made on September 27, 1909. That order was of such uncertain value that the President himself doubted it; five Federal judges denied it. True, a cautious policy called for a strict observance of the provisions of the order. The Standard Oil Company, for reasons already made public, scrupulously observed the order as the act of the President. But what need is there for the punishment of those who, less mindful of the period of their work, did that a few months later which for fifty years previously had been unreservedly sanctioned and encouraged by the Federal Government? For half a century minerals in the public lands were free; our citizens encouraged to make discoveries and to develop and to seek patent for the land. On September 27, 1909, much of this was changed by an order of doubtful legality, and which five and a half years later was sustained by the divided Supreme Court of the United States. Obviously, no vicious transgression of the law, no moral turpitude such as the law alone should punish, can be imputed to a mineral development after the withdrawal, which but a short time before was permitted and stimulated by the laws and policy of Congress. Then why so severe a punishment as confiscation for an offense so technical and so free of criminal element? Has not the Government and "conservation" itself been well and richly served in the development of a great oil field, with no expense to the public, and with thousands of acres of proven oil land added to the public domain? In equity and good faith no private citizen would be allowed to sit by and not only permit but encourage another to render his land valuable without losing to him the land or compensating him for its improved value. Shall the Government be less honest than the law permits its citizens to be? Nor does it do to talk of the law and the courts and the rights of the individual in that forum. No individual, least of all the oil men, whose resources have been strained by the cost of developing their properties, is able on even terms to fight the whole power of the Federal Government.

That the representatives of the Department of Justice are only following in the line of their duty is obvious. Their business is but to enforce the law as they find it, and the policy of the administration as it is defined to them. Possibly the Department of the Interior is

similarly powerless to relieve the inequities of the situation. But the counsel and policy of both departments is potent in the deliberations of Congress; and Congress, if it were informed of the facts could not, it would seem, remain indifferent to the hardships of the case.

In the name of common justice and out of a decent regard for the proper function of our Government, a halt should be called on the relentless persecution of those oil miners who, even though misguided as to the meaning and letter of the law, have attained success only by hard labor and through untold effort and vast sacrifice, whose efforts enriched, not only themselves, but the entire community and the public lands, and the fruits of whose labors neither economic policy nor ordinary principles of equity require the Federal Government to appropriate to itself."

Oklahoma Gas Field Studied.

The United States Geological Survey has made public a report on the Loco gas field, Oklahoma, by Carroll H. Wegemann, which has been prepared under a co-operative agreement between the Federal and State surveys, according to which each organization furnished a part of the funds necessary for the work. The Loco field is on the line between Stephens and Jefferson counties, about three miles southwest of the village of Loco and ten miles northwest of the Healdton oil field. For many years asphalt deposits have been known to exist in this vicinity, but deep drilling for oil and gas was not begun until 1912. The first gas well was struck in the spring of 1913, about six months before the Healdton pool was discovered. Six other gas wells, of capacities ranging from 6,000,000 to 20,000,000 cubic feet a day, have been drilled, but no pipe line has yet been laid to the field and the wells are capped.

The report, which has been published as Bulletin 621-C, contains suggestions in regard to prospecting the field for oil and gas. A copy may be obtained free on application to the Director of the Geological Survey, Washington, D. C.

Big Flow in Old Property

Well No. 3, of the Union Oil Company, on the old Coronation lease, on section 4, 11-23, is now flowing at the rate of 3000 barrels a day. It came in at 1000 barrels and increased steadily. This well is on the same section as the big Lakeview No. 2 gusher. The oil tests 25 gravity and is accompanied by a strong gas flow.

Parkfield Property.

A 165-acre tract of prospective oil land in the Parkfield District, Monterey County, is offered for sale by Frank La Vine, 230 W. First St., Los Angeles, Calif. The property is close to drilling operations, and is a first class prospect. The big money comes in the discovery. Particulars furnished on request.

Oil Lands for Sale or Lease !
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Antelope Valley to Be Explored.

According to reports from McKittrick the Standard Oil Company is preparing to enter the new field in Antelope Valley, seventeen miles from Lost Hills and south of Devil's Den. This is an unexplored section and while there are good surface indications for oil, no development work has been carried on there.

Changes in General Petroleum.

F. R. Kellogg and G. R. Gillons, formerly with the General Petroleum Company, have sold out their entire interests in the company and will devote their energies hereafter to the Richfield Oil Company and its affiliated interests.

There has been a complete reorganization of the National Petroleum Company, which is the marketing department of the General Petroleum, and J. P. Straughan, formerly of Texas and Oklahoma, is now in charge as manager.

Oil Tests Favor Western Crudes.

An article in the National Petroleum News dealing with oil tests made by car manufacturers, says regarding tests by the Packard Company:

"A year ago this company made an exhaustive test of motor oils. This test consisted in taking six new motors and using in each a carefully measured quantity of one or the six standard motor oils then on the market. The oils were carefully analyzed before they were placed in the motors. The motors were then started running under pressure equal to an average load and allowed to run for a period of twelve hours. Every hour the oil was tested for temperature, viscosity, flash and fire test and sealing quality.

"At the end of the twelve hours the oil was again analyzed and the motors were torn down and examined for carbon deposit.

"Assistant Engineer Hunt says he is inclined to favor oil made of western asphalt base crude, rather than oil made of eastern paraffins base crude."

New Zealand Increases Oil Duty.

According to advices received by the government at Washington from the Consul General at Auckland, New Zealand, a new tariff that seriously affects American petroleum and its products has gone into effect in that country.

Kerosene, benzine and gasoline, formerly apparently admitted free under the provision exempting from duty refined mineral oils not exceeding in specific gravity 0.870 at 60 pence per gallon; electric generators, motors, lamps and transformers are to be dutiable under the general tariff at 20 per cent ad valorem, instead of 15 per cent; the general rate on bicycles, tricycles and motoreyes, and on fittings for such articles is reduced from 30 to 20 per cent ad valorem, thus equalizing the general and British preferential rates; a rate of 10 per cent ad valorem (both general and preferential) is imposed on motor vehicles, formerly dutiable at 20 per cent ad valorem under both tariffs, and on gas, hot air, and oil engines, which were previously dutiable at 20 per cent ad valorem under the general and were exempt under the preferential tariff; chassis for motor vehicles, formerly entitled to free admission, are made dutiable under both tariffs at 10 per cent ad valorem. The rates prescribed by the British preferential tariff are applicable to products imported into New Zealand from the United Kingdom and from British colonies granting reciprocal tariff concessions.

Still Safeguarding the investor.

Commissioner of Corporations Carnahan has revoked the temporary permit issued to the Marjess Mining Company for the sale of its shares. The original permit was based on an option to buy one mine and which the company forfeited and started operations on another property. The Commissioner very properly held that a new application, stating actual conditions, must be filed before a permit can be granted.

Low Prices for Oils in Hawaii.

As the Hawaiian Islands use 4,000,000 gallons of gasoline, the Honolulu Star-Bulletin says that the present "oil war" of three companies will save the purchasers about \$700,000 annually. It says that "two years ago, before the two independent companies began handling gasoline, it sold at 35 cents a gallon; now it is 13 cents; the municipality is offered it at 11 1-2 cents." Fuel oil is rapidly coming into favor in the islands, and the lowest tender just made to the city of Honolulu is 97 cents per barrel; case petroleum was offered at 17 1-2 cents per gallon and petroleum in barrels, 10 1-2 cents; distillate was offered at \$0.0795 per gallon.

This Sounds Like Old Times.

There seems to be considerable oil excitement in certain Oklahoma fields, and accounts from that part of the country remind one of the early days of boom oil times. The following dispatch from Pemeta, Oklahoma, appears in the Martlesville, Oklahoma, Examiner, and it gives one a real thrill to think that the oil industry can create such excitement during the present depression:

"Alarm clocks are more in use in the oil field towns at the present time than at any other period of the oil field history, for the reason that every scout, gauger and other official of oil concerns are trying to out-guess and outwit each other in picking up whatever oil there may be for sale. Never before has there been such a demand for crude oil, and each purchasing concern is keeping both eyes open and having their men get out of bed before daybreak in order to be first on the ground if there is even a possibility to buy.

"Every owner of a tank of oil has had an opportunity to sell it, and the tanks are fast passing into the hands of a few. And in many instances the daily production of a lease is being taken as fast as it comes from mother earth. In numerous instances all the pipe lines will have connection with the most important leases, each anxious to get its proportionate share.

"Recently a big oil buying concern wired its representatives at Oilton to visit a certain tank, test and gauge it, and let the company know at once what he would recommend. He got up at 4 o'clock and went to the tank. On the way he passed representatives of four other concerns, coming from the same tank farm. He did his work, wired the company that he had done his work, and got a reply that the oil was sold even before he had been wired to visit the tank.

"Frequently there are some interesting races pulled off in the field, at the present time, to see who can get to a purchasable property first. They are pulled off afoot, on horseback, in buggies or buckboards, and in automobiles, and every scheme possible is used to out-wit the other fellow."

Premier Asquith of the British government has asked parliament to increase the tax on petrol by 6 cents a gallon.

The Submarine Oil Company, recently organized, will put down a well on the Fred Wileox property, in the San Fernando district.

New Development Reported.

It is rumored that the General Petroleum is making preparations to begin work in the Belridge field in a short time. It is said that a number of rigs will be erected and active operations begun. Such action on the part of the General Petroleum will mean much for the development of that part of the field.

Further Conservation Plans.

Reports from Washington, D. C., state that further conservation of the oil fields of California, and possibly in Oklahoma, is contemplated in Secretary Daniels plans for the navy in connection with the strengthening of the national defense. Naval and Department of Justice officials are studying the situation in California.

Queensland to Drill for Oil.

The department of mines of the provincial government of Queensland, Australia, has cabled to its chief engineer who is now in the United States, authorizing him to purchase drilling outfit for a test well. It is intended to develop a prospective oil field in the vicinity of Roma, and it is intended to keep all oil lands in possession of the government.

Austria Controls Oil Production.

Consul General Albert Halstead, of Vienna, Austria, writes to the government at Washington, that under an Imperial decree, dated August 18, 1915, the Austrian government has, from that date, taken possession of all the present and future production of crude petroleum in Galicia and of all stocks of oil belonging to business organizations owned in whole or in part by citizens of countries at war with Austria-Hungary.

Heavy Shipment of Mexican Crude.

According to Vice-Consul Bevan, of Tampico, Mexico, more crude oil was shipped from Tampico to United States points during the month of August than in any other month since January, 1914. The total reached 1,352,037 barrels, compared with 680,042 in August of 1914. More than 850,000 barrels were shipped from Tuxpam during August this year.

Excitement in Kansas.

Oil men are swarming to a new field in the middle west, near Arkansas City, Kansas. A test well sunk to a depth of 3400 feet developed a 1000 barrel well with only six feet of pay sand penetrated. As soon as this production was shown rigs started up on all sides, and races are going on night and day for further producers. An electric light plant has been erected on the field so that the operation may be continuous.

Union Oil Men in Social Gathering.

That work can be combined with play was exemplified during the closing days of September, when about 100 employees in the sales department of the Union Oil Company gathered at a dinner at Fresno. In addition to the usual good time indulged in at such gatherings, these men talked shop and many splendid ideas on the selling end of the game were developed.

Another Well for Jackson.

Another well was added to the list of the Jackson Oil Company near the end of September on section 11, 30-21, in the McKittrick field. The company had four producers. The Jackson Company is developing a good section and recently completed a large station with an equipment of 70-horse power boilers. The property of the Jackson Company is in the extreme northern portion of the McKittrick field, and lies just east of the East Puente Oil Company and north of the McKittrick and the San Francisco companies. D. A. Jackson, who is general manager of the Jackson Company, is a live wire and gets all that is coming from the property.

Rittman Process Offered Union Oil.

Reports come from Los Angeles to the effect that recently Van K. Manning, Director of the United States Bureau of Mines, proffered to President W. L. Stewart, of the Union Oil Company, the free use of the Rittman process for extracting gasoline and making dyes and explosives. The fact that the government owns the Rittman patent and is determined that the public shall have the free use of this new process which is said to extract much greater quantities of gasoline, is shown by the fact that a government plant has been erected at Pittsburg, Pa., and now it is being offered to the Union with the understanding that this company will erect a plant.

Monte Cristo Meeting Called.

Owing to a difference of opinion among the directors of the Monte Cristo Oil and Development Company a call has been issued for a meeting of the stock holders to be held on October 22. This meeting will determine whether Monte Cristo shall continue in business or accept an offer understood to have been made for its properties by the Standard Oil Company of California.

Notice to Oil Companies

The California State Mining Bureau has issued a notice to oil operators in which it says that before starting work on any oil or gas well in California, notices must be given to the Department of Petroleum and Gas of the State Mining Bureau. Operations are divided into four classes as follows: 1, starting to drill new well; 2, testing of water shut off (five day's notice); 3, deepening or re-filling an old well (15 days' notice); 4 abandonment of a well (15 days' notice.)

The notice must be in writing and given to the deputy supervisor in charge of the field where the well is located.

Logs of all wells and monthly reports of their production of oil and water will also be required.

Crude Advances at Pittsburg.

At the opening of the market on October 7, there was an advance of 5 cents on Pennsylvania crude oil. This brings the price up to \$1.75 a barrel.

New Gusher for the Union.

No. 3 well of the Union Oil Company, located on the Jergens property, came in a gusher. The well is located on section 4, 11-23, and is in the district famous for its great gushers, being close to the Lakeview No. 2 and the Interstate No. 1.

Coast Banker Special Merits Praise.

The most artistic and striking of all of the beautiful special editions issued by the Coast Banker is the number carrying the report of the American Bankers Association, recently held in Seattle. Its colored art work and its typographical excellence, in addition to its splendid report of the convention make it well worthy of a place on every banker's library table.

Midway Company deepens gusher.

It is reported from Maricopa that No. 29 well of the M. J. & M. Consolidated Oil Company, located on section 36, 12-24, which came in as a 2000 barrel gusher and flowed for a short period and then sanded up, has been deepened to another strata of oil said below the big sand found at 2097 feet.

The lower sand was found to be twelve feet thick and is being tested out to see what it will do. It is the company's intention to make this a test well to take tests of the lower sands in that section. Should nothing better be found below then the well will be backed up to the 2097 sand and production will be brought from that depth.

Mexican Petroleum Goes to Panama.

The Mexican Petroleum Company has inaugurated a campaign for business that means active competition with the Standard Oil Company in the Florida country and with California all along the western coast of the American continent. The company is now erecting a number of large tanks at Christobal, at the eastern terminus of the canal, which is so close to the company's wells near Tampico that it will cut a large figure in the time of shipment when in comparison with oil shipped to the western end of the canal from San Pedro, the nearest shipping point in California.

The Mexican Petroleum Company is also erecting tanks at Tampa, where it will enter the field at present occupied by the Standard. Fuel oil has come into general use throughout Florida and the Mexican company wants a share of this trade.

Ask for Modification of Ruling.

Attorneys representing the General Petroleum Company and the General Pipe Line Company have made application to Judge Bledsoe, of the United States court, sitting at Los Angeles, to modify his ruling that Receiver Howard Payne take charge of 1,384,110.86 barrels of oil belonging to the former company, and not permit it to be removed. The oil is in the tanks and pipe line of the General Pipe Line Company.

On behalf of the oil companies the argument was made that of the 1,700,000 barrels of oil in the tanks and the line of the General Pipe Line Company that is owned by the General Petroleum Company, only 57,000 barrels were taken from government land. The oil companies have contracts with railroads and other large corporations, in California and other states, in Canada and in Chile and if the court's order is not modified, it was argued, the oil companies' business with those corporations will be stopped.

Judge Bledsoe declared his order did not affect the General Pipe Line Co. He was told that the latter company delivers oil on order from the General Petroleum Co., and that the order of the court affects the pipe line company to the extent that it will not be able to make deliveries in accordance with contracts.

Union Petroleum Company Moves Offices.

The Derrick is in receipt of a removal notice of the offices of the Union Petroleum Company from 135 South Second street, Philadelphia, to the Widener Building, at Chestnut and Broad streets.

Oil and Petroleum Manual.

One of the most informative books that has come to the desk of the Derrick recently, is the Oil and Petroleum Manual, by Walter B. Skinner, editor and publisher of the Mining Manual and Year Book, of London, England. This book is a standard of reference on all matters pertaining to oil companies in all parts of the world, and to different phases of the oil industry. Every person in any way interested in petroleum and oil products in any capacity will find this book of great help. The reader is placed in possession of facts and figures relating to all important oil companies known in the London Market, as well as the chief foreign concerns. Facts and figures are presented in such a concise fashion that information may be gleaned at a glance of the pages. The book is sent, postage paid, for 4s. 6d. net, and can be obtained from Walter B. Skinner, at 11-12 Clements Lane, London, E. C.

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Why Make It a Charity

The Derrick is always ready and willing and glad to help along anything that will help the petroleum situation. It was on this account that the Derrick has been publishing from time to time, articles furnished to it, relative to the meeting of the American Petroleum Society at the Exposition. Reading these articles, one would imagine that the American Petroleum Society would be represented at San Francisco many thousand strong. We must confess to quite a disappointment when upon attending a meeting of this society at Festival Hall on October 25-26, we found present on the first day, twenty people, and on the second day fourteen.

One of the peculiar statements made by Irving C. Allen, who is secretary of the American Petroleum Society was that he had spent four years' time and a large amount of money, approximately close to \$1000, in getting forward the idea of the American Petroleum Society and trying to make it a big meeting. It seems to us, without any knowledge of exact conditions, that a vast amount of time and energy together with an unnecessary sum of money has been thrown away and it is our impression that it has been thrown away because the methods used to obtain an attendance to this meeting were not such as to induce people to come.

If one were to judge purely from the type-written program which was handed around at this meeting, he would imagine that it was a most enthusiastic and wonderful assemblage of great minds in the petroleum industry. The papers announced on this program were from men of high standing and it would seem that with that sort of backing, a society of this kind should have no trouble in its existence.

The question arose in the mind of the writer, immediately upon reaching the hall, "Where are the members of the American Petroleum Society?" It developed that but one man there was a member of the society and the others were those who had been invited to attend and read papers. Forty-two names were on the program, but out of the forty two, certainly not one-fourth of the number were present and the convention or the meeting of the society or what ever it may be called was something that seemed to be a flash in the pan. The Panama-Pacific Exposition had been induced to pay for all of the expenses of the convention, including the stenographer and this must be put on top of the amount of money spent by Mr Allen

in trying to promote this meeting. In other words, it cost probably between \$1500 and \$2000 to bring fifteen men to a meeting.

It developed at this meeting that Mr. Allen's idea was to have a branch of the society formed on the Pacific Coast and it further developed that Mr. Allen, who occupies a position under the United States Bureau of Mines was trying to form this society for the purpose of shunting from his shoulders to the shoulders of a number of experts, the questions and theories which were sent to the Bureau of Mines by people who desired information in regard to the petroleum product and petroleum production.

One of the features which were brought out by Mr. Allen as a reason why this organization should be established on the Pacific Coast was that it would give opportunity for the big petroleum corporations to find out things that they could not otherwise learn. This is quite a reflection on the big petroleum corporations who were expected to furnish the brains which would give the incentive to make this society a success.

Another proposition put forward was that the petroleum companies were to be called upon to furnish the money to make the society an established fact. In other words, instead of having an organization of men who were so intensely interested in the subject that they would join it for the purpose of learning something and of giving out to others, their own knowledge, it was to be a sort of a charitable proposition in which the big petroleum companies and refining companies were to put up the money in order that their own employees might go and learn a little something.

Such an idea is undoubtedly contrary to all ideas of ethics in big petroleum companies as well as in other people. We can see no reason why if the American Petroleum Society is a good organization, it should have to be subsidized by big oil companies to keep it alive. Unless the big oil companies see that they themselves are going to derive benefit or that their employees are going to derive benefit from this organization there is no reason in the world why they should send their men or put their money into it.

It is claimed, of course, that this society, like all other societies, will be a power for the purpose of getting things done for the oil industry. It is quite a commentary upon the success of Mr. Allen's efforts to note that in twenty four hours, another man in San

San Francisco got together a lot of oil men, organized them and got busy in going to the people of the State for the purpose of bringing before the Government the idea that the withdrawal of the lands in California was bad. This organization which was fostered by Mr. Roy Bishop has done more in three days than the American Petroleum Society has done in three years and got together men who are in earnest and who are active and who want to do things. The fact that the American Petroleum Society is supposed to do these things has nothing to do with it. It is the man who does things and not the man who says things that counts in this world and Roy Bishop has done more for the oil industry of California in the short time that he has been active than Mr. Allen has done in all of the three or four years that he has been trying to shift the burdens from the shoulders of the Bureau of Mines to a society.

The Derrick believes that a Petroleum Society would be a splendid thing for California. It believes that the oil men of California ought to join such a society but he believes that when they do join it, they ought to join it, not for the fact that they are going to come in as beneficiaries of big oil companies, but they are going to come in because they think it is something that they are going to get benefit from because of their being members and consequently they will put up the money to be members and they will give and take. Get knowledge and give knowledge.

So far as the proceedings of the society are concerned, they were perfunctory in every sense of the word. It wound up by the appointment of a committee of three two from Los Angeles and one from San Francisco whose duty it is to call upon the big oil companies and find out whether they will put up the money to inaugurate such a society. The Derrick is not in the sporting business but it is a safe bet to say that there isn't a single big oil corporation that is going to put up a dollar for the purpose of promoting a society that hasn't enough of its own merits to induce people to belong. We would like to see the society organized. We would like to see the oil people belong to it but what we want to see is a society that will draw people to it purely from its own merits and purely from the desire of those people to become members of an organization that is going to be a benefit to themselves and to the oil industry.

If one will glance over the following program, he will see that there was quite a wide range of subjects supposed to be discussed at this meeting. It will also be seen that with twenty people, at the outside, present, two of them being photographers and three of them newspaper men, it is very difficult to find out how forty-two subjects are going to be discussed by probably fifty men when only fifteen people are there to do it.

Following is the program as announced by this meeting of the American Petroleum Society which was held for two days in San Francisco.

- 1—The American Petroleum Society—Irving C. Allen, San Francisco.
- 2—The Petroleum Industry of the Pacific Coast—Mark L. Requa, San Francisco.
- 3—The U. S. Bureau of Mines' Work in Petroleum—W. A. Williams, San Francisco.
- 4—The California State Mining Bureau's Work in Petroleum—Fletcher Hamilton, San Francisco.
- 5—The Oil Fields of California:
 - (1)—Watsonville and Los Gatos, A. W. Cox, Watsonville, M. B. Tuttle, Watsonville.
 - (2)—Parkfield, Cholame and Priest Valley, Y. Lange Zabala.
 - (3)—San Benito County, Monterey, Panoche, Vallecitos, Bitter Water, Topo, Beach Tree, Guy Salisbury, Coalinga.
 - (4)—Santa Maria, Cat Canyon, Casmalia, Tiber, Arroyo Grande, Lompoc, Paul Prutzman, Santa Maria.
 - (5)—Summerland, A. W. Grant, Hadley.
 - (6)—Ojai, Ex-Mission.
 - (7)—Santa Paula and Sespe, W. L. Watts, Los Angeles.

- (8)—Newhall, Pico Canyon, Elsinore, Placerita, H. Clay Needham, Newhall.
- (9)—Whittier, Wm. Platts, Whittier.
- (10)—Fullerton, Brea Canyon, Mr. Perris, San Bernardino.
- 11.—Puente, T. W. Okey, Ventura, Cal., W. R. Hamilton, San Francisco.
- 12.—Anaheim.
- (13)—Los Angeles (old city), (Salt Lake), G. M. Swindell, Los Angeles.
- (14)—Coalinga and North, R. S. Hazeltine, Coalinga, Guy Salisbury, Coalinga.
- (15)—Lost Hills, Kettleman Hills.
- (16)—Bellridge.
- (17)—N. Midway, Mr. Lombardi, Los Angeles.
- (18)—S. Midway, L. A. Crandall, San Francisco.
- (19)—Buena Vista Hills, Buena Vista Flat.
- (20)—Sunset and South, Mr. Douglas, San Francisco.
- (21)—Kern River, Chas. P. Fox, Bakersfield; Bernard Bienenfeld, San Francisco.
- 6—Improvements in deep well drilling, Coalinga and other oil fields of California—R. L. Peeler, Coalinga.
- 7—Drilling Through High Pressure Gas Measures—John A. Polard, Los Angeles.
- 8—Steel Drilling Rigs—R. B. Woodsworth, Pittsburgh, Pa.
- 9—The Origin of Petroleum and Asphalt—Clifford Richardson, New York.
- 10—The Valuation of Oil Properties—Roswell H. Johnson, Pittsburgh, Pa.
- 11—Better Prices and Fairer Measurement—Peter Diechmann, Tulsa Okla.
- 12—Asphalt, Its History, Manufacture and Uses—Charles Ekstrand, M. E., Martinez.
- 13—Lubricating Oil—E. W. Mann, Richmond.
- 14—Tests on the Saybolt Viscosimeter—R. R. Matthews, Berkeley.
- 15—Viscosimeters—R. F. Mac Michael, Auburn, Washington.
- 16—European Refining Methods—L. Seelenfried, Oakland, Cal.
- 17—Rational Specifications for Motor Gasoline—Paul W. Prutzman, Santa Maria, Cal.
- 18—The Testing of Gas Engine Lubricating Oils—The Testing of Turpentine Substitutes—The Testing of Transformer Oils—J. Winkler, Berkeley, Cal.
- 19—The Coefficient of Expansion of California Oils—A. S. Crossfield, San Francisco.
- 20—The Insurance Man's Points Affecting Fire Hazards—A. W. Gunnison, San Francisco.
- 21—The Cracking of Petroleum and Aromatic Hydrocarbons—W. F. Rittman, Pittsburgh, Pa.

Statement of the Ownership, Management, Circulation, Etc., required by the Act of August 24, 1912, of California Derrick, published monthly at San Francisco, Cal., for Oct. 1, 1915. Editor, Clarence E. Edwards; managing editor, Clarence E. Edwards; Business Manager, E. L. Mackey; Publisher, California Derrick Publishing Co. Owners, Clarence E. Edwards, San Francisco, Cal., E. L. Mackey, San Francisco, Cal. Known bondholders, mortgagees, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities: None. Clarence E. Edwards, Managing Editor. Sworn to and subscribed before me this 29th day of Sept., 1915. A. H. McDonald, notary public in and for the city and county of San Francisco, State of California.

Comments on Ardmore Explosion

Two words in the newspaper accounts of the recent tank car gasoline explosion at Ardmore, Oklahoma, one of the most disastrous in the history of the oil industry, are practically a complete explanation of the terrible catastrophe, according to K. R. Kingsbury, vice-president of the Standard Oil Company. Those two are "compressor gasoline."

"The tank car which caused the explosion that resulted in the death of more than fifty people, was filled with compressor gasoline," said Mr. Kingsbury. "Compressor gasoline—made by compressing natural gas—is very 'gassy' and unstable and ignites so easily that there is always danger of explosion. Even when mixed with a low gravity gasoline to produce a 'blended' or 'mixed' gasoline, as is now commonly being done, the mixture is still very 'gassy' and dangerous. It is not at all like a straight-run refinery product such as our Red Crown Gasoline, which is made by distilling crude petroleum.

"More than a year ago our company dismantled the compressor plant it had installed in the oil fields at Newhall, Cal., for manufacturing gasoline from natural gas. This was after we had made exhaustive tests and experiments with the gasoline so produced to determine, if possible, a safe means of transporting it to El Segundo Refinery for rerunning. Compressor or 'Blended' gasoline, in our opinion, is at all times and under all circumstances a dangerous proposition. Its great volatility and high vapor tension test makes it a product too dangerous for us to handle by any known means of transportation."

Ach, Asher, Ashes

Between Henry Ach, president of the Monte Cristo Oil Company, and Hugo Asher, attorney for a number of the minority stockholders of the company, the flame of enthusiasm over the sale of the company to the Standard Oil Company turned to hot coals and then to ashes.

Monte Cristo has been a splendid property and would still be if it were properly and well handled, but of late years there has come a big strip of lean in the fat and as is usually the result the stockholders have become dissatisfied and want to get out from under, with the result that when an offer to buy came many were eager to sell. But some of the stockholders were anxious to hold on and the result was that Hugo Asher, on their behalf appeared before Judge Crothers and asked for a restraining order to prevent the sale of the property.

It was when this injunction was served on Henry Ach, at a meeting of the stockholders, that the flames turned

to coals, and later the fire went out and all parties agreed to take a little more time for consideration.

Monte Cristo's prosperous times appear to have departed about January in 1913, when the last dividend was paid. Up to that time the total dividend disbursements amounted to \$1,427,500, and a number of the stockholders are not satisfied with the fact that business has fallen to a point of no more payments to them. From a stock of good value it has now fallen to a point where a recent sale marked the transfer of 1000 shares at 20 cents.

The company has a number of good properties, including 220 acres in the Kern River Field, 160 acres in the Sunset field, 320 acres in the West Kern district, 320 in the Lost Hills district and 40 at Midway. It also has 45 acres under lease in the Fullerton district. This seems to be a good holding for a company that is capitalized at \$1,000,000 and with but \$700,000 shares out.

Growing Strength of the United States

The growing financial strength of the United States in the family of nations and the opportunities thus created for future prosperity were brought out at the annual convention of the Investment Bankers Association of America held in Denver, September 20, in the address of Dr. E. E. Pratt, Chief of the Bureau of Foreign and Domestic Commerce. He cites the British investments abroad of \$17,500,000,000, French foreign investments of \$6,500,000,000, and Germany's \$2,500,000,000 to \$5,000,000,000 invested abroad as the basis for their commanding influence in the world's commerce. English money just before the war was going into foreign and colonial investments to the extent of a billion dollars annually, and French capital about one-fourth that amount, while Holland and Belgium also have contributed freely. Dr. Pratt added:

The tremendous volume of foreign trade and the supremacy of London as the market for international securities depend mainly upon export of British capital. Thus London holds a great part of the external debt of Japan, and the price of Japanese bonds depends therefore upon London's judgment of Japan's financial strength. The great Argentine railroads are British companies. The head offices are in London and London is the principal market for their bonds and shares. The same thing is true to a considerable extent of the external debt of the Argentine Government. British investments in Argentina Government debts, railways, land companies, ranches, etc., run several hundred million sterling.

The virility of German capital in exploiting foreign markets is well exemplified in the case of Russia. Russia, like all countries of the world, has been largely dependent upon Germany in the chemical industry. In 1897 there were but three German chemical companies with a capital of \$1,200,000 in Russia. In 1913 there were 14 companies with a capital of \$9,500,000.

America's ability to loan depends upon the savings of the people. The nation is now selling more goods abroad than it is buying. The balance of trade during recent fiscal years ended June 30 show a remarkable favorable balance to the United States during the year just closed.

In the face of the tremendous destruction of capital which is going on in Europe, it would seem that this is a time for the United States to save and for the people of the United States to curtail their expenditures which are in any way unnecessary and to invest those savings where they will do the greatest amount of good. Great Britain had made herself the foremost capital nation in the world, not because she made large profits, but rather because she saved large savings. For the United States to become a great capitalist nation, the people of the United States must save. It is sometimes said that it is a man's first duty to save. If that be his first duty, it is certainly his second duty to so invest those savings that they will be of the greatest advantage to the commonwealth. Just at the present the investment of savings in foreign securities, in the securities of those countries which we hope to win for our foreign markets, will afford the greatest advantage to our commonwealth.

It is also worth while for us to stop and consider whether or not in making our loans to the European nations and in making loans which are to be used almost wholly for destructive purposes is an economically sound principle for us to follow. Please do not misunderstand me. I am not criticizing or objecting to loans which are being made to the European countries. I am merely raising the query as to whether or not it is a sound economic principle for us, as a nation, to loan our money to our best customers to enable them to destroy one another when we might at least be using a portion of that capital to develop those countries which, although now not our best customers, are likely to become very good customers. I realize perfectly that under the present circumstances it is not a question of whether we want to loan money to Europe or not. At present we have no alternative. We must loan money to Europe in order to keep our foreign trade moving and in order to permit us to realize the largest possibilities of the present situation. However, we should not lose sight of the fact that the undeveloped countries of South America, of Africa, of Australia, and of the Far East are ardently seeking capital with which not only to develop but with which to keep the very wheels of commerce moving.

With the Ocean Fuel Burners

A New Motor Ship.

A motor ship, Bengkalis, built for the Koninklyje Paketzaart Maatschappij has just been launched in Holland. Her measurements are, length 230 feet, width 38 feet, and depth 20 1-4 feet. The vessel is destined for passenger and cargo service in India.

Barges Building for Shell Company.

The Shell Oil Company in California, has under construction four oil barges, two building at Sausalito and two in the shipyards in Oakland Creek and when completed they will be used in supplying fuel to vessels in San Francisco, Oakland and other points about the bay.

British Tankers in Danger.

All is not a bed of roses for the oil tankers carrying supplies to the British navy and they, for some time past, have been dodging about in fear of the schooner Academy which is now being held in Colombia according to advisers received in San Francisco recently. The attorney for the company, A. M. Johnson, denies most emphatically that the vessel is or has been engaged in any illegal action but her moves were so mysterious that the government became afraid that it would be involved in some international complication unless she was taken care of, hence she was now held in Columbia.

Oil Burning Battleship a Success.

When the great super-dreadnaught of the United States Navy, the Nevada, made her trial trip she proved beyond doubt the efficiency of the oil burners. The Nevada, the first battleship of the navy supplied with oil burners, sped through the waters off Owashead, Maine, faster than was required of her by the government, and faster than the builders themselves believed her capable of doing.

Her trial test was particularly satisfactory to the naval board, for she made a speed of 21.04 knots at the maximum and an average of 20.9 knots. The oil burners not only drove the ship at a speed in excess of contract demands but also decreased greatly the volume of smoke from her stacks, thereby improving her battle efficiency by making the ship less conspicuous when in action.

The Nevada's best speed was computed from five best runs of the twenty three which she made over the one mile test course. She was required to show a mean record of 20 1-2 knots for this five miles but this was bettered by nearly half a knot.

Oil Engines for Sailing Vessels.

Oil engines of large size, which so far as reliability is concerned do not call for anything further, have been constructed in the last few years and a great number of sailing ships have been equipped with them. The first large installation for a vessel on the Pacific Coast is to be on a lumber carrying vessel now building for the Charles R. McCormick Co. at their own yard in Oregon. This craft is 278 feet long, over all, 250 feet between perpendiculars, 48 feet beam and 19 feet depth or hold, being probably the largest single decker, wooden vessel yet constructed. The rated lumber carrying capacity will be 2,000,000 feet. The craft will

be rated as a five masted sailing schooner with cargo booms on two of the masts serving two large hatches. Cargo handling facilities will be similar to the usual steam schooner outfits, steam for the winches being supplied from an oil fired donkey boiler. The main holds are to be divided fore and aft on the center line by a heavy timber truss which gives strength and stiffness to the hull and being open, does not unduly interfere with the storage of lumber in the hold. The auxiliary driving power will be supplied by two 320 horse power four cylinder engines, placed far aft and occupy but little space of any use for cargo. The guaranteed consumption of fuel in these engines is 58 lbs of fuel oil for brake horse power per hour and judging from past performances no difficulty will be found in meeting this guarantee. Under power this new oil carrier is expected to develop about seven knots loaded and her performance on long off-shore runs will be keenly watched.

A comparison between a sailing ship with an auxiliary engine and a freight steamer will give an absolute preference to the sailing ship. The average speed in both cases has proven to be about the same for one journey. The loading capacity is in favor of the sailing ship, the weight and the space of the oil engine equipment being considerably less. Initial cost, running cost and the depreciation are less and when idle there are no costs for raising steam or "stand-by" losses. There are no constant repairs to tanks, boilers, floor plates, etc., no firemen's wages and no coal bunkers, the fuel being carried in space which is useless for any other purpose. Apart from this the sailing ship possesses a greater radius of action. Installations already made have shown in practice their superiority and when installing sailing ships with auxiliary power, the profits have increased about fifty per cent or more. The Bolinger Company of Stockholm, Sweden, of which Henry Lund and Company are Pacific Coast Agents, turns out about 60,000 horse power of oil engines per annum and is the most prominent firm in this branch. Fully 11,000 such engines are in use all over the world.

Pipe Lines Do Good Business.

Reports on pipe lines state that the Monterey line of The Associated Oil Company has increased its capacity from 9000 to 13,000 barrels a day and is running at about full capacity. The Associated Pipe Line Company to Port Costa is running at full capacity. The Standard Oil Company's pipe lines to Point Richmond are running at usual capacity. The Valley Pipe Line Company of the Royal Dutch Shell Company, has its lines to Martinez in shape to run oil to its refinery and runs are now being made.

Report on Coalinga Field.

Bulletin 603 of the United States Geological Survey, compiled by Robert Anderson and Robert W. Peek, is being distributed to those interested. The main purpose of the report is to present the geologic evidences of the existence of petroleum in the formation along the west foothills that border on the San Joaquin Valley between the Coalinga oil fields as far north as Livermore Pass. The report discusses the possibility of oil existing in commercial quantities in the region covered by the report.

Government Issues Valuable Books

The United States Bureau of Mines has just issued Bulletin 94, "United States Mining Statutes Annotated," in two volumes, which is now being sold by the Superintendent of Documents, Government Printing Office, Washington, D. C., at \$2.50 a set.

This bulletin is a compilation of all sections of the United States Revised Statutes and of all acts of Congress relating to mines, mining, mineral lands and the mining industry on the public lands. It is intended for persons engaged in mining enterprises that come within the scope of Federal mining laws and as a guide as to the determination of mining rights and duties. It shows the status of every Federal mining law, both laws relating to metal mining and those relating to coal, oil and phosphate and to mining on public, Indian and railroad lands.

The bulletin relates only to the United States mining laws and does not include any of the laws of the different states in regard to mining. Another bulletin which the Bureau of Mines hopes to print in the future will contain the state laws.

In addition to the Revised Statutes and the acts relating to metal, coal, and oil and gas, acts relating to the following subjects, as they bear upon the mining industry are included: Alaska, Indian Lands, Lead Mines, Philippine Islands, Pipe Lands, Railroad Grants, Rights of Way, Salines and Salt Springs, Settler's

Relief Acts, State and Public Grants, Stone Lands, Timber Cutting for Mining Purposes, Town Sites, Tunnel Acts, and Withdrawals.

All sections and acts are annotated. These consist of abstracts of decisions of all courts and public officers wherein any of these sections or statutes are explained, construed and applied. The annotations are arranged under each section or statute with appropriate lines in definite order, and consist of plain propositions of law, and point out how the courts have cured many defects, made clear the uncertainties, and aided in the practical application of these statutes. The large number and wide range of these decisions show that the practical value of the mining laws depends on their present status as established by the courts. The person interested is thus aided in determining the course to pursue in applying any given act to his mining enterprise.

The preparation of these annotations involved an examination of more than 2,000 volumes of reports of various courts and public officers. The work is indexed and any desired subject may be readily found.

The preparation and publication of this bulletin have been so expensive, it has been necessary to place a price of \$2.50 on the two volumes. The volumes are cloth bound, contain 1,772 pages, and may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C.

Tells of Business Conditions

One of the clearest, most concise and analytical resumes of the business outlook is contained in the monthly letter of the Wells Fargo Nevada National Bank, issued on October 15, and it shows that conditions are gradually improving and that the country is realizing this fact, which brings about a feeling of increased confidence about the future.

One of the most significant paragraphs of the letter is the following:

The notable event of the past month was the placing of the Anglo-French loan of \$500,000,000. It has given rise to much strong feeling based upon the sympathy felt throughout this country for one or the other of the belligerents. Criticism has claimed that the loan was of unneutral assistance to the one side, that it tended to prolong the war, that the right of the United States to trade with belligerents was stretched when credits were opened upon an enormous scale having the effect of deferring payment for war supplies until after the war. On the other hand, the protagonists of the loan insist that these things are justified, mainly upon the ground that it is merely a business matter for this country, fairly comparable with our right to trade with foreign nations in time of war. They believed that the chaotic condition reached by the foreign exchanges required this loan for its correction, that the borrowers were amply responsible, that the terms of the loan made it a good investment, that its necessity was so self-evident as to impose a duty upon Americans to support it. It is now announced that the loan is fully subscribed, that is, underwritten; so it may be regarded as already a success in the sense that the amount will be forthcoming and may be expected to have the intended effect upon foreign exchange. Evidently, however, the investment is still in first hands, that is in the hands of the individuals, firms and institutions who became the subscribers. Whether or no investors throughout the country will be ready to put their money into it still remains to be ascertained. Their decision pro or con will doubtless be governed in each instance by some of the considerations above enumerated but it must be remembered that the argument favoring the loan for its effect upon the exchanges or for the purpose of facilitating the sale of our commodities will ordinarily be given little weight for the reason that those directly engaged in these activities are not usually those whose capital is seeking investment. In this locality the individual investor has not as yet manifested much interest. The Commissioners from England and France are understood to have applied originally for \$1,000,000,000 and the belief seems

prevalent that further loans will have to be made successively if the effect upon foreign exchange is to be lasting.

In speaking of crop and industrial conditions, the letter says:

Crop conditions throughout the country are quite remarkable. The Government October estimates show clearly that the wheat crop will exceed 1,000,000,000 bushels, being much the largest crop ever raised. The corn crop, although not as large as the record crop of 1912, is likely to be on the basis of October first prices, the most valuable crop ever grown. It is estimated that it will be worth considerably more than \$2,000,000,000. A record crop of oats is indicated. The crop situation as a whole is highly favorable.

California has been enjoying perfect weather conditions for harvesting its crops, so that the tendency will be for the earlier estimates to be exceeded, especially in the case of dried fruits. Sales are now going forward and in large volume while the packing houses are taxed to their utmost. The situation in Southern Europe has brought about a demand for seedless raisins, which has practically cleaned up our California crop. Muscat raisins will be distributed in due course, it being estimated that from forty-five to fifty per cent of the entire crop must already have been sold. The outlook for wine grapes, on the other hand, is very unsatisfactory, due largely to the government tax on sweet wines. It seems likely indeed that much of this crop cannot be marketed at all. The canned fruit pack is practically completed, the volume agreeing closely with former estimates, say about 4,750,000 cases, and the distributive demand has been excellent. Business in beans is active at good prices. Exports of barley up to the end of October will have been approximately 120,000 tons, leaving about 100,000 on hand in California. Shipments of barley were delayed for a while during the demoralized exchange situation, and although this is now improved they are still held back on account of the closing of the Canal. Eventually the exportable balance of barley will be shipped but it will probably take some time.

The closing of the Canal through land slides has thrown additional burdens on the railroad lines, but transportation conditions have been much better this fall than was anticipated. Last year's salmon pack was about 6,600,000 cases with 1,000,000 cases carry-over from the preceding season, making a total of 7,600,000 cases available for distribution. This has been entirely cleaned up. This year, the total pack will be about 5,600,000 cases, with no carry-over, so it is expected that it will be sold and distributed as rapidly as transportation facilities can be obtained.

In the oil business consumption has been increasing somewhat more rapidly than production. The recent advance of 2c per gallon in the price of gasoline reflects this relation of demand and supply.

California Derrick

The Oil Authority of the Pacific Coast

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

Big Oil Suits Under Way.

The big oil suits brought by the government are under way, and the only developments so far that are of importance are the fact that Judge Bledsoe owns stock in a company that is interested, and this will probably serve to disqualify him from sitting in the hearing, and the further fact that witnesses have testified that former President Taft virtually assured them that there was no authority for the withdrawal of the lands, and they acted in good faith.

General Petroleum Not Hard Hit.

The report has been current for some time that The General Petroleum Company was seriously affected by the government suit recently filed to test title to oil lands in California. In this connection, it is stated by the Chairman of the Reorganization Committee of the company that the title to only 1000 acres of the Company's land can be called in question and that of this acreage only 200 acres are producing. None of the company's valuable holdings is involved or can be involved.

More European Money Coming.

Another \$5,000,000 of European money is coming to California to develop the oil industry. The Shell Company of California has been issued a permit by Commissioner of Corporations, H. L. Carnahan, authorizing it to sell \$5,000,000 par value of its preferred shares for cash, to net the domestic company not less than 90. None of this stock is to be sold in California but is to be taken up entirely, it is understood, by Holland capitalists. The proceeds will be used for the general development work undertaken by the Shell interests in California.

Increased Oil Prices.

Depreciation in price of both crude and refined oils throughout 1914 were reflected sharply in the inventory accounts of oil companies at the close of 1914, result-

ing in several instances in reduction of surplus. The recovery which has taken place since August, 1915, will have a contrary effect at the close of the current year. In the case of refineries which laid in large supplies of crude before the market started its advance the appreciation in the value of inventories will add largely to their profits. The combination of declining sales and prices last year resulted in large decreases in earnings of many of the Standard Oil Companies for 1914. Financial reports for 1915 should be very favorably affected by the tremendous increase in sales and advanced prices for crude oil and the refined products.

Standard Gets Good Well.

Standard well No. 1 on the west front of the Kern River field, on section 27, 28-27, after a test run shows up satisfactorily with a production running better than a 100 barrels per day. The well flowed during the summer months, going as high as 300 barrels but the heavy water pressure necessitated cementing. Standard officials are hopeful of bringing the well in as a flow ing well again and predictions have been made that it will reach 300 barrels. Well No. 2 on the same section has been satisfactorily cemented and will be put on the producing list before the end of the year. Well No. 1 on section 15, has not yet been placed on the producing list, although the showing of sand was exceptionally fine.

Union Insures Its People.

Three million dollars in insurance, covering 3000 employes, is provided for in a contract entered into by the Union Oil Co.

Every employe of the Union, including officers and of its subsidiaries, with the exception of the seamen in the marine department not engaged by the month, is covered by a policy of \$1000 life insurance, payable in case of death from any causes whatsoever, to whatever beneficiary the employe may name. This is to continue in force as long as the employe remains in the service of the Union Oil Company or subsidiary corporations.

A committee was appointed recently by the Union Oil Co. of California with the power to act and the matter was taken up with George A. Rathbun, manager, and Cecil Frankel, associated manager of the Equitable Life Insurance Co., with the above outlined result.

Oil Stocks Go Up.

Quite a spurt in the better stocks was noticed during the past month in oil exchanges of San Francisco and Los Angeles, the most notable advance being in Standard of California which improved fifteen points in three weeks. There was much activity in Associated, which went up on repeated bids, while Union Oil was also sent higher in Los Angeles. Amalgamated showed an advance to 78 making four points betterment.

Those who have watched the market for some time are of the opinion that these advances denote more than a flurry and that the day is not far distant when there will be improved quotations all along the line of oil stocks. There is a betterment of condition in the producing field, as both the price of crude and refined product has been advanced.

The Derrick has been consistent in its belief that the worst is over so far as the depression in the oil industry is concerned, and every indication points to steady improvement.

Advance in Price at Well.

An advance of 5 cents a barrel has been announced in crude oil at the well, and there is also an advance of the price of refined oil and gasoline. This advance has had the tendency of starting drilling in a number of properties.

Schwerin to Manage Associated Oil.

R. P. Schwerin, for many years vice-president and general manager of the Pacific Mail Steamship Company, which recently withdrew from the transpacific service, has been chosen for another good berth. By a unanimous vote of the directors of the Associated Oil Company recently, the steamship expert was elected vice-president and general manager of the Associated Oil Company, one of the largest oil producing corporations in this state. Schwerin succeeds W. S. Porter who passed away recently. His offices will be in the Sharon building on New Montgomery Street.

In accepting his new position Schwerin declined several high positions offered to him by Eastern corporations.

Until the liquidation of the Pacific Mail Schwerin will act in an advisory capacity to Julius Kruttschnitt, president of the company. The concern has now disposed of all its vast holdings with the exception of the veteran steamers on the Panama run which are for sale to the highest bidder.

Schwerin originally began his career at Annapolis, but gave up a naval career for business. He was employed by the Southern Pacific as purchasing agent until Huntington associated him with the Pacific Mail, a subsidiary corporation of the railroad in former days.

Getting Around the Law.

Shrewd minds always find means of getting around laws and many a great lawyer has become rich by showing corporations how to do business in spite of laws rather than by advising them how to obey laws. Several features of the National Bank act have been considered irksome to the banks and among them was the fact that no bank is permitted to establish a branch. There is a provision in law that one can't do indirectly what he has been forbidden to do directly. But it seems that this provision is not sufficient to prevent banks from getting around the law. Louis G. Kaufman, president of the Chatham & Phoenix National Bank of New York, shows how it can be done.

It is a well recognized fact that State banks with branches may nationalize. Perhaps the most conspicuous instance of this is to be seen right here in San Francisco where the Bank of California N. A., which organized as a State bank fifty years ago, came into the National Association bringing with it its various branches.

That simply answers on phase of the problem. The question is how could a bank that is already in the National Association obtain branches? This is the way Mr. Kaufman has solved the problem and he has not done it theoretically but practically. First, get control of the state bank that has branches; then nationalize it; then absorb it; then you have a National Bank with branches. Of course you cannot create any more branches than you already have, but if the state bank has been favorably located and has had its branches favorably located, the National Bank does not need any more. All this they worked out when the Chatham & Phoenix National had the Century Bank take over the

Security Bank and then nationalize the Century Bank, and then it took over the Century with the result that now the main bank has 12 branches.

Standard Oil Declares Dividend.

At a meeting of the board of directors of the Standard Oil Co., of California, the regular quarterly dividend, No. 28, of \$2.50 per share, was declared, payable December 15 to stockholders of record at the close of business November 20.

Dudley Oil Co. Active.

Dudley-Dudley Co.'s interests in the Lost Hills and Belridge districts comprise four wells on section 6, 27-21, producing 36 B gravity oil. One well on section 9, 27-21, and one well on section 13, 27-20. Dudley and Dudley control about 9000 acres in and near the Lost Hills district. The recent strike of oil, light gravity, to the south of the Dudley interests has stimulated the owners of possible oil lands in the district and considerable development work is contemplated in the very near future. The production of the Dudley wells is reported to be about 7000 barrels a month.

Standard Goes Higher.

The Standard Oil Building is going to grow. The necessary appropriation has been made and the work will begin immediately. The general office forces have been growing right along with the business and the family has become too large for the house. The directors have decided that the proper and feasible way for the building to grow is upward—two stories more. When construction work began on the company building, March 31, 1913, the general office force numbered 371 persons. When the building was ready for occupancy June 1, 1913, the number had increased to 426 and today there are 594 names on the roll.

Pipe Line to be Completed Soon.

The engineers of the Valley Pipe Line Co. will complete their work along the pipe line by November 15. So far the pipe line appears to be working splendidly according to the engineer's report. The new line is 157 miles long, leaving the oil fields at Calioia the tank farm on section 4, 20-16, to Martinez, the terminal, where an up-to-date refinery has been built and equipped with the latest modern appliances to reduce the crude oil to the many by-products known to the modern chemists. The capacity of the line is 25,000 barrels and more per day, of 24 hours. It is expected that this line will supply the demand created by the refinery.

Ford Company Favors Oil From Western Crude.

The Petroleum News, in a recent issue, published an article on oil tests. Speaking of the Ford Company's experience with oils, the article says:

"The Ford Company in its huge plant at Highland Park, Detroit, maintains a well equipped laboratory and a chemist with trained assistants, who are continually at work trying to find the ideal motor oil for use in Ford cars.

"We worked for three years in our laboratory before we found the motor oil now being used in the Ford plant," said C. T. Hobart, head of the service department of the Ford Company.

"Our experiments were first made with oil made from Pennsylvania crude," said Mr. Hobart. "We found we had better success, however, when we used western crude."

War Does Not Hurt Standard

Reports of the foreign subsidiaries of the Standard Oil Company show that even in Germany the war had little effect, adversely, on those companies. Both the German and Roumanian companies showed increase of business, the latter being somewhat better of the two.

Operations of the Deutsche-Amerikanische Petroleum Gesellschaft, the German subsidiary of the Standard of New Jersey, in the first half of the year were on a normal basis, according to the annual report which has just become available. At the outbreak of war, when Germany was cut off from outside sources of oil, supplies of the Standard's German subsidiary were unusually large, which enabled the company to make deliveries throughout the year, although there was some entailment in line with the policy of the Germans of saving supplies as much as possible.

Earnings in 1915 are less favorable than in 1914 because of a poorer first half year and because the company has continued to make deliveries at the same prices as prevailed before the beginning of hostilities.

Earnings of the Deutsche in 1914, compared with 1913, are as follows, (in marks):

	1914	1913
Brought for	8,594	88,349
Oper. Income	5,701,817	5,814,656

Gross Earnings	5,710,411	5,903,005
Less—		

Dep. Charges	3,606,918	3,306,911
Net Profit	2,103,493	2,596,093

Directors declared a dividend of 225 marks a share (22 1-2 p. c.).

The Rumano-American Co., the Roumanian subsidiary of the Standard Oil of New Jersey, showed a large increase in business which was interrupted only when the Dardanelles were closed. Production amounted to 420,531 tons, compared with 333,228 in 1913.

In the refinery there were handled 384,550 tons, against 301,596 in 1913. Of that amount 382,480 tons were obtained in the first distillation, compared with 299,462 tons in the preceding year. The capacity of the refinery was increased from 310,646 tons to 434,251 tons.

A net profit of 9,847,591 francs for the refinery and 5,119,889 francs for the field department, or a total of 14,967,480 francs, was shown for the year.

A dividend of 10,000,000 francs, 40 p. c., was declared by the directors on the 25,000,000 francs capital stock. The surplus was 4,967,469 francs. With the preceding year's balance of 304,794 francs, after a stock dividend of 100 p. c., there was a total of 5,272,273 francs carried forward.

California's Oil Industry Association

At last California's small oil producers will have an organization that will work for their protection against unjust laws and departmental action that is detrimental to their interests and to the interests of the oil industry of the state.

The Oil Industry Association has been formed, and it is backed by men of such standing, financial and political, that we are disposed to believe that at last a solution has been reached of the vexing problem of protecting the interests of all those who have oil properties in California.

It is due, primarily, to the energy of Roy N. Bishop, who has charge of the Crocker oil interests, that this organization has been brought about. He tired of the eternal dilly-dallying of those who have been talking organization for the past several years, and called a meeting of the men whose interests were of sufficient importance to make them wish for immediate action. When the response to the call came there was assembled men who represented fully \$25,000,000 worth of oil properties, and these men determined then and there that hereafter there should be an active and organized campaign for the protection of these properties.

At the first meeting, which was held at the Palace Hotel in San Francisco, Roy N. Bishop was chosen as president of the Association; W. D. Egilbert, vice, president; Herbert Fleischhaecker, president of the Anglo and London Paris National Bank, treasurer; L. E. Doan, of Oakland, secretary. President Bishop was authorized to name an executive committee of twenty and he has named the following:

Roy N. Bishop, chairman, assistant to president, Palace Hotel Company, San Francisco; W. D. Egilbert, commissioner general P. P. I. E., San Francisco; Herbert Fleischhaecker, President Anglo and London Paris

Nat. Bank, San Francisco; L. E. Doan, oil operator, San Francisco; Percy J. Walker, president California State Automobile Association, San Francisco; S. N. Morsehead, vice-president Independent Oil Prod. Assn., San Francisco; J. F. Carlston, president Central Nat. Bank, Oakland; Louis Titus, vice president Fort Blakeley Lumber Mills, Oakland; F. H. Hall, chairman Democratic State Central Committee, Bakersfield; Dan Murphy, Colton Cement Co., Globe Flour Mills, Los Angeles; W. L. Valentine, Banker and oil operator, Los Angeles; W. L. Schultze, oil operator, Bakersfield; W. O. Maxwell, president Western Oil Producers Assn., Taft; T. O'Donnell, oil operator, Los Angeles; J. W. Barneberg, president Commercial Bank, San Luis Obispo; S. A. Guiberson, Jr., oil operator, San Francisco; G. W. Swindell, secretary Chamber of Oil and Mines, Los Angeles; D. S. Ewing, attorney, Fresno; C. B. Colby, president Western Water Co., Bakersfield; Clarence Berry, mining and oil operator, Oakland.

A committee on permanent organization was appointed, consisting of Former Governor James N. Gillett, Joseph D. Redding and Stanley Morsehead, which met on the following day. It was decided to begin a campaign for members, the admission fee being placed at \$1 in order to have a thoroughly representative organization. Herbert Fleischhaecker, Roy N. Bishop and Dan Murphy were appointed as committee on finance, and L. E. Doan was made chairman of the membership committee.

The object of the organization is declared to be to put before the Congress of the United States in an effective manner the justice of the claims of the oil men of California that they have been deprived of their patents, which prior to the withdrawal order of President Taft the government encouraged them to believe would be given them if they prosecuted their work of

development of the oil lands of the state. It is believed that the only hope of justice will come from congressional action and not from the courts, consequently all the energies of the association will be devoted to showing to Congress that they have been unjustly treated.

There is no question that the organization of this association means much for the oil industry of California, and it certainly deserves the hearty cooperation and endorsement of every individual interested in any way

in oil, its production or its manufacture. The entrance fee is so small that every man can become a member without injury to his finances, and by so doing he will add his mite to the fund that is to make the operation of the association a success.

The Derrick believes that the new organization will accomplish that which we all have been striving for, and in this belief it calls upon every person who has interests at stake to join forces and give moral and financial support to those who are working for the good of the entire state.

Safeguarding the Public

Commissioner of Corporations H. L. Carnahan is determined to safeguard the public as far as possible yet at the same time is desirous of helping along struggling corporations that have merit back of them. He has decided to permit shares to be issued by a corporation in exchange for an unpatented invention where the inventor has made application for a patent and desires to secure financial aid to develop his idea, but in order to safeguard the public in every case of this character the permit requires that the certificates evidencing shares so issued shall be void and must be canceled if the inventor fails to secure letters patent covering his process or invention, and meanwhile, the certificates must be deposited as an escrow pending the proceedings before the patent commissioner.

In the case of the Hendrieks Copper Process Co., an Oakland corporation, the commissioner authorizes the issue of 46,500 shares to Geo. P. Hendrieks and Dr. R. L. Jump in exchange for the Hendrieks process for hardening copper, with the provision that the shares be held as above indicated, and further that they be withheld from sale until the company shall have ac-

culated surplus profits sufficient for the payment of an annual dividend of not less than 10 per cent upon all shares outstanding. The company is further permitted to sell 1670 shares to certain individuals who signed an application setting forth the fact that they were thoroughly familiar with the affairs of the company and experimental nature of its enterprise and desired to invest.

Similar conditions were imposed in permitting the Resilient Auto Wheel Co., a Nevada corporation, capitalized at \$1,000,000, to sell a limited number of shares at the price of 25 cents per share for the purpose of raising funds with which to conduct further experiments in the perfection of an invention on which application has been made for letters patent. The company is allowed to issue one share of stock to the inventors for each share sold for cash, thus giving them control of the company at all times. All of the shares issued to the investors and 17,500 shares permitted to be issued to investors prior to incorporation at a price less than 25c. must be deposited as an escrow until patents are allowed and until the company is in a position to pay 10 per cent dividends.

Liquid Gold in Alaska

From away up North on the snow waste that forms the rim of America, far beyond the Arctic circle, four oil springs that flow freely into a lake of oil have been discovered according to W. R. Valin of the United States Bureau of Education, who has come out of the wilderness of the North Western part of Alaska to sell, for a fortune, the staked out bounds of the springs of oil and lake they have formed. Mr. Van Valin is going to Turloek, California and expects to interest his father-in-law, and oil men there in his project. Mr. Van Valin has obtained from the Government, leave of absence for one year, which time he considers is sufficient to dispose of what may turn out to be his liquid gold mine.

"There has been nothing like it in this country," said Mr. Van Valin, "the oil is flowing out of springs all around. Oil does not freeze and apparently a pressure of gas indicating unlimited oil has forced the oil to the surface." The native Eskimaux, it seems, knew about the springs of oil and the little streams that trickled constantly from them but they did not understand the strange substance. To them it was an evil omen.

"The birds of the Arctic would swoop on the stream that defied the cold of the bitter winter. The wings of the birds would stick to the gummy substance and they would never rise. Several adventurous natives ventured into the sluggish liquid and barely escaped

with their lives. Little wonder that they dreaded the whole region of oil.

"Finally in puzzled desperation, two of the natives tramped over the ice and appealed to the white creature who surely would know something of this strange substance that flowed when all else was frozen and I heeded the call. I hitched up a team of reindeer and with the Indian, who also drove a reindeer team, mushed over the snow for 450 miles.

"I know where the oil lies and I won't tell until my negotiations are concluded. I made that journey over the ice with the native. I found what they had told me about. I staked it carefully, made my chart and returned."

The discovery was made early this spring. Quietly Mr. Van Valin staked his ground and made his plans. He sent forward his request for a leave of absence from the educational post at Wainwright, Alaska and packed up his belongings. His first announcement to the world of his discoveries was made on his arrival at Seattle. The four springs, according to him, are close together. It is a flat tundra thereabouts and he says well filled with craters of extinct oil wells. On the top of a hill about fifty feet in height, which has been formed during the misty past, by the wind driving reindeer moss together, the springs come out and flow into the lake.

CALIFORNIA CONCENTRATES

Arnold Shalet, a fuel oil magnate of Texas, paid San Francisco a visit during the past month.

The Union Oil Company is preparing to drill two new wells on the International lease.

The Union Oil Gusher, International No. 3, has maintained a flow of 4,000 barrels a day since it came in.

Union Oil Company is establishing a big warehouse and storage tank at Hanford.

The Associated Oil Company is making improvements and repairs on the Monterey line.

The Peerless Oil Company on Section 22, 19-15, is now delivering its production to the Standard Oil Company.

A wild story comes from El Centro that a gusher was struck at thirty feet.

The Pierce Oil Corporation has resumed operations of its wells and pipe line at Tampico, Mexico.

Salva Oil Co., Los Angeles, has incorporated; \$10,000. Thomas A. O'Donnell, Rena L. Stombs, and Ella T. Yarnell.

The Associated Oil Company will within a few days begin erection of two rigs on its Shamrock lease in the southern part of the McKittrick district.

The Salt Basin Oil Co., having valuable property in the Roosevelt oil fields, will begin active development at once.

Associated Oil Company is to begin drilling two new wells on its Shamrock lease in the McKittrick district, soon.

Interstate Oil Company is preparing to drill a new well and to deepen its No. 3, on property adjoining the International gusher.

Lake View No. 2 Oil Company at Maricopa intends to deepen the Interstate wells and drill at least two new holes before the end of the year.

Watsonville Oil Company has discovered oil at a depth of two hundred and fifty feet. Indications are that the well will be a good one.

The No. 29 well of the M. J. and M. and M. Consolidated lease on section 36, 12-24, near the city of Maricopa has been completed and was placed on the beam.

Buena Fe Petroleum Co., Los Angeles, has incorporated; \$10,000. Thos. A. O'Donnell, E. L. Doheny, Jr., and C. E. Doheny.

The Producer's Transportation Company has decided to install two water proof boilers to replace the marine boilers where the explosion occurred at the station at McKittrick.

The Sun River Oil and Gas Company of Spokane, Washington has been organized with a capital of \$250,000. The Company will develop oil and gas holdings in the Sun River Valley of Montana.

The Dutch Shell Company is laying a lateral pipe line from its stoppage plant on Section 2, 20-15, to Ora Station from which point the tappings are shipped in tank cars to its refinery at Martinez.

The Lost Hills Developing Company is to drill three more wells on the back of the property in the Lost Hills District. The derrick is up for the first and those for the other wells will be erected at once.

At a special meeting of the stockholders of the Suburban Oil Company, held in San Francisco, it was decided to dissolve the corporation and formal notice of the decision was filed with the county clerk.

Three new wells have been brought in recently on the Associated Oil Company's lease in section 26, 31-23, in the midway district. These wells are yielding about 3,000 barrels a day.

The Union Amalgamated Mining Co. has incorporated; principal place of business, Tonopah, Nev.; \$2,000,000. C. F. Witenberg, Wm. Forman and James H. Forman, all of Tonopah.

The Columbia Oil Company will pay its quarterly dividends of 1 1-2 cents per share. The dividends call for the disbursement of \$51,203.00. The Company owns the Puente Oil Company in addition to its other holdings.

The Kern Trading and Oil Company is deepening its well No. 11 on Section 1, 20-15. The Federal Drilling Company has the contract to drill the hole to 3000 feet.

The Dutch Shell Company has started work on its two new 5000 barrel tanks at Ora Station.

The Olig Crude Oil Co., on section 31, 31-23, near Fellows, is abandoning the No. 1 well. The hole has been plugged and the casing is now being pulled. With this pipe all above ground, plans are being laid to drill a new well, which will use this material.

The Atehison, Topeka and Santa Fe has bought the property of the Crow Line Oil Company in the Healdton, Oklahoma field and the price is said to be \$1,000,000 and the deal involves 100 acres of land and a production of ten thousand barrels daily.

Thomas Jennings, former Superintendent of the Case Mineral and Petroleum Company who is now superintendent of the Midway Fuel Oil Company is engaged in working up the production of that property. He has two wells now back on the list and expects to have the others on soon.

General Petroleum is preparing for the construction of a six inch pipe line to extend from the Fair Creek division of the Company to Lost Hills for the transportation of oil from the Bellridge and Los Hills districts connecting with the company's main line to the city of Los Angeles.

The No. 13 well of the Consolidated Mutual Oil Co., on section 28, 31-23, on the side of the Buena Vista Hills near Fellows is on the beam. It was completed to the oil sand a few days ago and is now showing up good with indication of flowing with the heavy oil being drawn off.

STANDARD OIL COMPANY

INCORPORATED IN CALIFORNIA
STANDARD OIL BUILDING

SAN FRANCISCO, CAL.

SUBJECT

K. R. KINGSBURY,
VICE PRESIDENT

October 7, 1915.

Mr. D. G. Scofield, President,
Standard Oil Company,
San Francisco, California.

Dear Mr. Scofield:

I want to call your attention to the later reports of the investigation following the recent disaster at Ardmore, Okla. It develops now that the tank car which caused the explosion and resulted in the death of more than fifty people was filled with gasoline made by compressing natural gas, and known as compressor gasoline, not a straight run refinery product like our Red Crown gasoline, which, as you know, is a pure product of crude oil distillation.

Compressor gasoline is very unstable and very "gassy," and the vapors ignite so readily that there is always danger of fire or explosion in handling it. The Ardmore shipment, it seems, was intended to be mixed with low gravity gasoline in the same manner as is done by some manufacturers in California, and the product is known to the trade as a blended or mixed gasoline and is offered quite extensively to motorists in some sections. Even when compressor gasoline is blended in this manner it is still very "gassy" and dangerous.

This unfortunate disaster at Ardmore has clearly pointed out the wisdom of the action of our Board of Directors a little over a year ago in deciding to dismantle the compressor gasoline plant which we installed at Newhall, California, with a view to determining whether it was safe to compress our gas there and ship the resulting gasoline to our refinery for stabilizing by re-running. At that time we published in the Standard Oil Bulletin of July, 1914, a statement announcing the discontinuance of this plant and the reasons therefor, and I attach the clipping hereto.

I believe, in justice to the public and to ourselves, we should take some means of informing motorists and all those handling it the risk they are running in using this dangerous compressor gasoline.

Very truly yours,



CLIPPED FROM
STANDARD OIL
BULLETIN
JULY - 1914

Compressor Plant Dismantled
ABOUT a year ago this Company decided to install in the oil fields at Newhall (Pico Canyon), Cal., a compressor for manufacturing gasoline from natural gas. A short time after that a complete plant was installed and in working order. Many tests and experiments have been made with the gasoline produced by this

(Continued on page 15)
Compressor Plant Dismantled
(Continued from page 3)
compressor to determine, if possible, some safe means of transporting it to the Company's refinery at El Segundo for rerunning. Owing to the great volatility and high vapor tension test of casing-head gasoline produced from California natural gas, which makes the product at all times a dangerous one to handle, the Company has decided to abandon the prospect of making gasoline from natural gas in California and has dismantled its plant.

Fuel Oil Driving Out Coal

There has been quite a conflict of opinion regarding the motorship as a serious rival of the coal burning vessel and the entire shipping interests of the world have been interested in this discussion. It is only a short time since the first type of vessel took to the water burning fuel oil and the first to visit San Francisco was the East Asiatic Company's big motor vessel, Siam, which completed her cargo here from Copenhagen.

Besides the interest continental ship owners have disclosed and the eagerness they have displayed to place orders for such craft, it is recorded that British owners have made inquiries as to the advantage the motor ship possesses over the steamer and they found comparison so satisfactory that orders have, in some cases, been placed. Burgermeister and Wain of Copenhagen who have constructed all of the ocean-going motor vessels that have been seen in San Francisco and a great many more, all of which have presumably run so profitably and successfully that the owners of them disclosed no hesitancy in placing further contracts for the class of crafts, say that none of their vessels have given any trouble at all like those that fell to the pioneers in the steam boat movement when it was in the same period of development.

Possibly, had not the war happened, and business of all kinds, been going along with the usual steady swing, with all of us interested in mercantile affairs, only,

concentrating attention on the regular matters of moment, some more of the drawbacks now hinted at, and which appear so formidable would have been heard and deeper thought and investigation been the natural result. But still, momentous as the war issues have been from time to time, there are some who would still have followed the great development of the motor ship and pointed out the hindrances to its successful competition with the steamer long before the stage was arrived at that has caused some journals to forecast the dire things they now refer to off and on.

The first of the type of vessels that visited San Francisco and created a furor when she ended the long sea-going trip was the Sealandia, which came here about three years ago. There was no war at that time to interest people or to detract attention yet no fault was found with her or the claims established on her behalf as an economical and profit paying venture. She was all the builders and owners claimed, notwithstanding the fact that owners generally do not follow the lead, preferring to await further developments. At that time, it was pointed out that the time would come when owners would consider the motor ship for long voyages and undoubtedly, they still will do so despite what is being said in some quarters and which certainly leads us to desire to be further acquainted with their objections before altering the opinion that was expressed.

Inflamability of Mixtures Discussed

The Inflamability of Mixtures of Gasoline Vapor and Air are discussed by G. A. Burrell and H. T. Boyd in Technical Paper 115, just issued by the United States Bureau of Mines.

The authors in their conclusions say in part: "Two methods for determining the content of gasoline vapor in air are discussed. One has to do with the introduction of the mixture into an exhausted glass vessel, cooling it at the temperature of liquid air, removal of the air, and finally the measurement of the partial pressure of the gasoline vapor by means of a manometer attached to the liquefaction bulb.

"Another method consists in burning the gasoline vapor in oxygen and, from the contraction and carbon dioxide produced, calculating the percentage of gasoline vapor.

"When a 100-c.c. Hempel explosion pipette was used and the mixtures were ignited from the top, there was obtained as the lower limit of complete inflammation a value lying between 1.9 and 2.0 per cent of gasoline vapor. The upper limit under these conditions was found to be between 5.2 and 5.3 per cent of gasoline vapor. The gasoline used had a specific gravity of 73 degrees B. Under the same conditions, except that the mixtures were ignited from the bottom, there was obtained a value lying between 1.5 and 1.6 per cent of gasoline vapor as the low limit. With the same grade of gasoline, with a 2,800-c.c. vessel, and with ignition from the bottom by means of an electric flash produced by pulling apart two wires through which a current of 7 amperes at 220 volts was flowing, there was obtained a value lying between 1.4 and 1.5 per cent of gasoline vapor. The high limit under these conditions lay between 6.0 and 6.4 per cent of gasoline vapor.

"When the initial temperature is increased before ignition of the mixtures the low limit is gradually decreased until with an initial temperature of 400 degrees C. the low limit lies between 1.02 and 1.22 per cent of gasoline vapor.

"The range of complete combustion for mixtures of gasoline vapor and air is very narrow, and is between about 1.5 and 2.5 per cent. The amount of carbon dioxide produced reaches a maximum at 2.5 per cent of gasoline vapor. At this point, as the percentage of gasoline vapor increases, carbon monoxide begins to form. At 4.1 per cent of gasoline vapor there is produced 14.0 per cent of carbon monoxide."

Copies of this paper may be obtained by applying to the director of the Bureau of Mines, Washington, D. C.

Standard Oil Will Make Dyes.

A report from New York says that Standard Oil interests working in close harmony with leading men in the Dupont Powder concerns are working on plans to enter the dye stuff manufacturing field on a vast scale. Already the ground work has been laid through heavy investments by Standard Oil men in stock of the United States Industrial Company whose output of denatured alcohol has been greatly increased since the demand for ammunition began to tax the country's drilling resources. Standard Oil money is also said to be going into the stocks of a steel company which erected a Benzol plant last fall and has for several months been turning out 4000 gallons per day of that basic capital in the manufacture of dyes.

Wyoming Oil Litigation.

Midwest Refining Co. has made the following official statement regarding the recent government litigation against Wyoming oil companies:

"The government recently brought two suits in the Federal Court at Cheyenne, Wyoming, one involving 200 acres of oil land in Grass Creek oil fields in Hot Springs county and the other involving a 160 acre tract in the Salt Creek oil field in Natrona county, Wyoming.

"Neither the Midwest Oil Co., nor the Midwest Refining Co. was made a party to the first suit, and neither of the companies has any interest in, nor in any manner affected thereby.

"In the second suit, both the Midwest Oil Co. and the Midwest Refining Co. were joined as defendants with William Hanley and numerous other parties, who claim to own the land involved, which land is not claimed by either of the companies. The Midwest companies have no interest therein, but were joined simply as incidental parties by reason of the fact that they had received oil from these properties in order to save it from wasting. Their presence in the litigation is due to this fact and the evident desire of the government to settle all questions as to the status of the oil heretofore extracted from the land involved.

"So far as oil being taken by Midwest companies from located land claimed to be owned by the Midwest Oil Co., it is coming only from claims upon which the government has granted permits to continue production."

The plain inference from the above is that the Midwest Refining Co. is operating upon oil furnished by the Midwest Oil Co. from lands not subject to government attack or withdrawal. The company's refineries are operating to capacity at the present time in order to keep up with its orders. During the week it has advanced price of gasoline one cent, making a net advance of two cents for the current month. As it has not had to pay any advance on the raw material, the advance is equivalent to an additional net profit of two cents a gallon on its gasoline sales. As August earnings of the company reached the high record in its history previous to, this advance, September earnings will doubtless show a new high record.

According to the financial statement of the Midwest Refining Co., as of December 31, 1914, the book value of the 360,000 shares of \$50 par value was \$52.05 a share on that date. This value is arrived at by subtracting the \$2,000,000 treasury stock carried in the asset column, which leaves tangible assets of \$19,264,991. Deducting from this, accounts payable of \$526,666, leaves net tangible assets of \$18,738,325, into which the 360,000 shares are divided.

The book value, of the stock at the present time is higher than is indicated above, as the company has been earning considerable above its dividend requirements during the current year.

Drilling for Oil at Natchitoches.

The phenomenal success of the oil drillers in the Caddo and Red River fields of northwestern Louisiana has encouraged their most sanguine hopes and has greatly stimulated wild-catting in many other regions of the state. One of these regions includes Natchitoches. Here six wells have been drilled since 1910, and although no producing well has been completed two wells encountered gas under sufficient pressure to cause "blow-outs," and from one or more of the remaining four wells a showing of oil was reported. This experience has caused so great a demand for information that the Director of the Geological Survey has issued an advance statement to aid the drillers in making a thorough test of the possibility of getting oil and gas

in the region. The statement, which follows, though it embodies some of the general conclusions reached by the geologist in charge of the work, George C. Matson, is both preliminary and incomplete, being made before the investigation is finished.

Natchitoches is near the southeastern edge of the broad Sazine uplift, a structural feature that has caused the accumulation of great quantities of oil and gas in Caddo, De Soto, and Red River parishes. In the vicinity of the town the geologic horizons that supply oil and gas may be reached by deep wells, though it is uncertain whether they will be found productive. The shallow gas and sand of northwestern Louisiana (Natchitoches sand) may have been reached in the first well of the Natchitoches Oil and Gas Co. (Freeman No. 1) at a depth of about 1700 feet. The sands that supply oil in De Soto and Red River parishes should be reached at a depth of about 3300 feet, and the deep sand that supplies so large a volume of gas in De Soto Parish should be reached at about 3500 feet.

South of Natchitoches the sands that supply oil and gas in De Soto and Red River parishes sink rapidly, until near Boyce they are believed to lie at a depth of about 5800 feet, more than a mile below the surface. Northwest of Natchitoches they rise toward the surface at an average rate of about 10 to 12 feet to the mile for about 10 miles from the town, and from that point northwestward they rise more rapidly for several miles at an average rate of about 42 feet to the mile. The rise is probably not at a uniform rate but is more abrupt at some places than in others though detailed information on this point is not yet available.

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More Light on Carbon Deposits

In a recent issue of an eastern Journal, a Government gas-engine expert, writing on lubrication in general, says, regarding carbon and its characteristics:

"So much misinformation has been published on this subject that it will be well to look into the conditions resulting in its formation. In the first place, what is ordinarily known as carbon in the cylinders nearly always contains something else in greater or less quantity. Rust and small particles of iron are nearly always found. In automobile motors a large percentage of dust (silica) is generally present.

"Carbon may exist in a motor oil in two forms: First, as free carbon held in suspension, and, second, in combination with hydrogen forming the numerous hydro-carbon compounds which go to make up the oil. The amount of free carbon in a well refined oil is very small, and the objectional carbon deposit is generally due to some other factor.

"Under the intense heat, in the absence of the air necessary for burning, three things may happen:

Case 1. The compounds may volatilize without decomposition.

Case 2. The compounds may decompose with the formation of free carbon and hydrogen.

Case 3. The compounds may decompose with the formation of other hydrocarbon compounds of a different nature.

"The products formed in case 1 give no trouble, as, being gaseous, they are carried out with the exhaust, whether burned or not. Of the products formed under

case 2, the hydrogen would pass out of the exhaust, or may remain in the cylinder. Whether or not it remained in the cylinder would depend greatly on the condition of the oil film on the cylinder walls. Some oils form a thick viscous, gummy deposit, which retains the carbon formed on its surface and prevents it from being blown-out through the exhaust. This gummy deposit gradually gets thicker and harder, eventually forming the hard carbon deposit so well known in cylinders in case 3. The free carbon liberated in case 2 is light and fluffy and of itself would not form the hard deposit.

"Oils made from the Southern-asphalt-base crudes have shown themselves to be much better adapted to motor cylinders, as far as their carbon-forming propensities are concerned, than are the paraffine-base Pennsylvania oils. The carbon formed from the latter is, as a rule, extremely hard and clings to the metal surfaces while that from the former is soft and can easily be wiped off any surface that it is deposited on.

"The explanation of this lies in the fact that the paraffine-base oils are generally composed of paraffine series of hydrocarbons, while the asphalt-base oils are composed mainly of the ethylene and naphthene series. One of the characteristics of the latter two series as compared with the paraffine series is their tendency to distill without decomposition. Consequently, no gum will be formed on the cylinder walls and the carbon liberated will be mostly discharged with the exhaust gases."

Oil Field News.

Chief item of interest in the report of September field operations is the increase of shipments of approximately 8000 barrels daily as compared with the August period, says the Standard Oil Bulletin.

The production for the month shows but little change and shut-in production remains at 12,000 barrels daily. A comparison of production and shipments indicates daily shipment in excess of production of 17,912 barrels. Of the thirty wells completed in September, yielding an initial output of 10,505 barrels daily, the most interesting completion was the International Oil Company (Union Oil Company) No. 3, Section 4, 11-23, in the Midway-Sunset field, depth 3,276 feet, gravity 26.5, good for 4000 barrels daily.

Summary of developments and production for all California fields for September is as follows:

FIELD	New Rigs	Drilling	Completed During Month	Abandoned	Wells Producing	Production Per Day
Kern River	1	4	1		1,663	24,263
McKittrick					279	23,698
Midway - Sunset	7	35	17		1,377	107,889
Lost Hills - Bellridge		4	2		248	11,740
Coalinga	8	10	6	2	792	34,787
Lompoc and Santa Maria					241	12,545
Ventura County and Newhall	5	21			445	2,924
Los Angeles and Salt Lake					688	5,797
Whittier - Fullerton	5	62	4		605	35,880
Summerland					95	132
Watsonville					5	75
Total	18	145	30	4	6,438	245,618

Total crude oil stocks, september 30, 1915, 59,624,905 barrels.
Total shipments from fields, Sept. 1915, 7,907,798 barrels.

Crude Oil Prices at the Well.

San Francisco, October 15, 1915, effective June 7, 1915. Standard Oil Company offers the following prices for crude oil at the well:

San Joaquin Valley Fields

(Kern River, Midway-Sunset, McKittrick, Lost Hills, Bellridge Coalinga).

14 deg to and including 20.0 deg. gravity, per barrel 32 1-2c.
21 deg to and including 26.9 deg. gravity, per barrel, 40c.
27 deg. to and including 30.9 deg. gravity, per barrel, 50c.
31 deg gravity and lighter, per barrel, 50c.

Ventura

21 deg to and including 26.9 deg. gravity, per barrel, 50c.
27 deg. to and including 30.9 deg. gravity, per barrel, 60c.
31 deg. gravity and lighter, per barrel, 70c.

Whittier-Fullerton Field

18 deg. to and including 20.9 deg. gravity, per barrel, 40c.
21 deg. to and including 26.9 deg. gravity, per barrel, 42 1-2c.
27 deg. to and including 30.9 deg. gravity, per barrel, 52 1-2c.
31 deg. gravity and lighter, per barrel 60c.

Mineral Oil Exports.

Exports of mineral oils for September according to the Department of Commerce were 214,743,373 gallons, which compares with 201,645,938 gallons in September, 1914. Total exports for the nine months ending September 30, 1915, were 1,733,628,143 gallons against 1,695,583,269 gallons in the corresponding period last year.

New Refinery Now Delivering.

The new refinery of the Ventura Refining Co., a subsidiary of the Ventura Consolidated Oil Fields, located at Fillmore and running the oil of the Montebello Oil Co., is so nearly completed that the gasoline and other products are being turned out and marketed. The capacity of the present unit of the plant is about 2000 barrels per day of the crude oil.

Patent Rights to Release Oil.

Leslie E. Moore, Frank S. Seppi and Homer J. Risten have been notified that their latest patent on a fluent release mechanism for well pumps has been granted. The device is intended to release oil from wells from 3000 to 6000 feet in depth, when the pump becomes sanded. By means of this invention, the oil can be removed without heavy expense, it is claimed. The National Supply Company has arranged with the owners of the device to manufacture it on a royalty basis.

Petroleum Exports Increase.

Exports of mineral oil products from United States ports during August reached a total of 232,224,614 gallons, which established a new high record in our export oil trade and compares with exports of 145,763,972 gallons in August, 1914. The previous high record was established in July, 1914, the month preceding the outbreak of the European war when 231,742,910 gallons were exported. The total exports for the eight months ending August 31, 1915, were 1,518,884,770 gallons against 1,493,937,331 gallons in the corresponding eight months of 1914.

Great Britain's Oil Imports.

The importation of approximately 15,500,000 gallons of petroleum products into the various ports of the United Kingdom during the present week, as detailed in this issue, shows the earnestness of those responsible for the carrying on of our petroleum trade in the general desire that we shall not suffer from any dearth of petroleum products. The amount is about double the quantity usually imported in times of peace; it is therefore a fitting answer to the claims of Germany that she has succeeded in almost totally crippling England's import trade. The Bowring Petroleum Company figure this week as the largest importers of oil products into London. The "Clearfield" has arrived in the Thames with roughly 1,500,000 gallons of motor spirit from Mexico for the company; while on the "San Dunstano" they have imported an almost similar quantity of illuminating oil, likewise from Mexico. This last named tanker also brought a large parcel of illuminating oil for the Anglo-Mexican Petroleum Products Company, Ltd. The "Beacon Light" has arrived from Texas with over 1,000,000 gallons of lamp oil, and for the British Petroleum Company, Ltd., the "Teutonian" has delivered over 1,700,000 gallons, the larger portion of which cargo was gas oil. The Asiatic Petroleum Company, too, has been a large importer during the week, the "Ranella" bringing nearly 2,000,000 gallons of motor spirit from the Far East. In the provinces the "Cheyenne" has arrived at Barrow with a cargo, mostly of motor spirit, for the Anglo-American Oil Company, Ltd., and at Bristol the "San Nazario" has discharged over 2,000,000 gallons of petroleum products for the Anglo-Mexican Petroleum Products Company, Ltd.—London Petroleum Review, Aug. 18.

Reports on Use of Mud

R. P. McLoughlin, state oil and gas supervisor, has made the following report which is of interest to California oil men, to State Geologist Hamilton:

"Pursuant to your instructions I have made an investigation and incidentally a visit to some of the Oklahoma oil fields for the purpose of determining to what extent the process of drilling oil wells with mud laden fluid has there been developed, and whether it is

available for use in protecting California oil fields from infiltrating water.

"Briefly stated the mud laden fluid process of drilling oil wells consists of circulating mud along the walls of the drilling well, as is always done when rotary tools are used or when a circulator is used in conjunction with cable tools. The proposed advances in method aim, by using perfectly clean mud under several hundred pounds pressure, to seal off all water, oil or gas bearing sands and carefully leave a solid column of mud behind the casing when it is landed. The theory is that by this method the intermingling of oil and water would be prevented, even though several strata were exposed behind only one string of casing.

"My conclusion from this and previous investigations, is that some of the claims advanced as to the usefulness of the process have not been sufficiently demonstrated. The process has for some years been used in this state to prevent the wasting of gas, and the U. S. Bureau of Mines and the Corporation Commission of Oklahoma are engaged in the very useful work of introducing it among the operators of that State.

"Underground conditions in Oklahoma and Kansas are scarcely comparable to those existing here. In those states the formations are so hard that rotary tools are seldom or never used, the wells will frequently stand open with little or no casing and the oil sands are so hard and compact they must be shattered with nitro-glycerine in order to obtain a satisfactory flow of oil. Infiltration of water seems to be of slight importance. Conditions in California are diametrically opposite.

"There were, however, some cases observed which at least indicate that mud may serve to shut off water, and brief mention of them will be made.

"In the Cushing field there are two productive oil sands, the Laton at a depth of about 1500 feet, and the Bartlesville at a depth of about 2500 feet. At a depth of about 1200 feet is a sand carrying salt water under a hydraulic head of about 1000 feet. The Prairie Oil and Gas Co., a large operator in the field, drills separate wells for the two sands. The deep and shallow wells are frequently less than one hundred feet apart. In the deep wells a single string of casing, backed with mud, penetrate both the upper oil sand and the salt water sand. No ill effects from water are reported in the shallow wells, although the conditions have existed for about six months at some wells.

"At Augusta, Kansas, there are sands at a depth of about 1400 to 1500 feet carrying commercial quantities of gas with rock pressure of about 600 pounds per square inch. At about 2500 feet depth is a productive oil sand. Considerable quantities of water exist above and below the gas. The Wichita Pipe Line Co. operates most of the field and drills separate wells, about a quarter of a mile apart, to produce oil and gas. In the deep wells a single string of casing, backed by mud, penetrates both the gas and water sands. No flooding of the gas sand has been noted after some three months.

"At the townsite of Fowlerton, Tex., two water wells drilled with rotary tools in 1911, are reported. The first struck fresh water at about 500 feet depth, flowing about 30 gallons per minute over the casing. The second well, about fifty feet distant, was drilled to nearly 1900 feet and between 800 and 1000 feet struck an artesian flow of salt water amounting to about 1200 gallons per minute. Thick mud was circulated back of casing driven at a depth of 1100 feet and while the shallow well was in use, some three or four months, there was no contamination of the water.

"The process may reasonably be presumed to accomplish several things greatly to be desired in California, especially a reduction in cost of drilling wells. However, as the State Mining Bureau is engaged in practical work, theory can not be the sole recommendation of this or any other problem. Doubtless some operators will be more than willing to immediately use the mud fluid method of shutting off water as it will be much less expensive than the ordinary methods now in use.

"I would recommend that a limited number of wells be permitted to drill with the mud fluid process, in selected localities where the after effects can be definitely studied, and if necessary, corrected without undue injury to surrounding property. The work should be allowed to proceed only under definite specifications to be furnished by the State Mining Bureau."

Holding Control of Mexican Petroleum.

The present controlling powers of the Mexican Petroleum Company proposes to take steps to keep this control and in pursuance of this plan has issued the following circular, which is self explanatory:

"Los Angeles, Calif., Sept. 15, 1915.

"To Holders of Preferred and Common Stock of the Mexican Petroleum Company, Ltd., of Delaware:

"The undersigned, stockholders of the Mexican Petroleum Company, Ltd., of Delaware, and other stockholders holding in the aggregate a majority of the outstanding capital stock, preferred and common, are of the opinion that it is for the best interest of all the stockholders of the company that the continuity of the present management of the company be secured in order to carry on without risk of interruption the development of its properties and business along the lines now being followed. In view of the arrangements recently effected in England, which were outlined in the annual report, involving a great expansion of the company's business, it is believed to be particularly desirable at this time that a continuous policy of management be secured, not only because the measures already adopted by the present management are expected to work great benefit to the company and its stockholders, but because the management would feel better justified in inviting the co-operation of the English interests requiring large expenditures on their part, if the control of the company is secured for that period during which the present policies are being developed.

"It is, therefore, proposed to create a voting trust for a period of seven years, and the undersigned have consented to act as voting trustees provided the plan meets with the general approval and co-operation of the stockholders.

"Preferred and common stockholders are invited to deposit their stock in negotiable form with the Guaranty Trust Company, New York City, which will issue its temporary transferable receipts therefor.

"For convenience of stockholders deposit may be made at the company's office, No. 1015 Security Building, Los Angeles.

"Such deposit will constitute an assent to the creation of the voting trust and an authorization to the undersigned to deposit such stock under the voting trust agreement if and when executed. Deposits of stock will be accepted only until the close of business on October 15, 1915, unless the time for deposit be further extended for thirty days by the undersigned in their discretion. Upon the expiration of the time for deposit the undersigned will determine whether in their opin-

ion stockholders sufficient in number and interest have deposited their stock to justify the creation of the proposed voting trust. According to the determination then made the Guaranty Trust company in exchange for its temporary receipts will either, as agent for the voting trust issue certificates representing the deposited stock, or will return the stock without charge.

"Copies of the proposed voting trust agreement may be obtained from the Guaranty Trust Company and at the company's office in Los Angeles, upon request made to the New York Stock Exchange to list the temporary receipts.

"E. L. DOHENY, President of the Company.

"J. M. DANZIGER, Vice-President.

"HERBERT G. WYLIE, Vice-Pres., Gen Mgr.

Patents have recently been granted to E. N. Breitung, for a Subterranean heater, a method for treating subterranean wells.

A patent has also been issued to J. C. Black, Point Richmond, Cal., on a refining process for petroleum.

L. W. Bodinson, of Aurora, Ill has also patented a deep well pump.

Parkfield Property.

A 165-acre tract of prospective oil land in the Parkfield District, Monterey County, is offered for sale by Frank La Vine, 230 W. First St., Los Angeles, Calif. The property is close to drilling operations, and is a first class prospect. The big money comes in the discovery. Particulars furnished on request.

Oil Lands for Sale or Lease !

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Richmond, the Great Petroleum Center

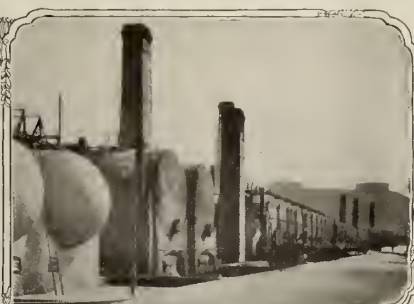
A new town was virtually put on the map when the Standard Oil Company established its Richmond Refinery. When the company broke ground for its plant in 1901, Richmond was a little community of scarcely 200 people. Today it is a thriving city of 22,000 inhabitants.

From this beginning Richmond has developed into a

000 square feet, which will probably be used for a wood-working plant; The California Chair Company; The Enameled Steel Bath-tub factory; The Western Pipe and Steel Company; The Enterprise Foundry; The Richmond Brass Foundry; The Berkeley Iron Works. But it is from a petroleum standpoint that the Derrick is interested and a description of the Standard's opera-



A Receiving House. Here tests are made of the flow from the Condensers, and when a marked change in gravity is shown, the flow is diverted to a new tank where distillate of a like gravity is stored. "Making a cut," it is called.



One hundred and seventeen of these constitute Richmond's still equipment. They have a daily capacity of 60,000 barrels.



Condensers, where the vapor from the stills is changed to a liquid which flows to a Receiving House, where the "cuts" are made.



Agitators. Illuminating oils are treated here. From the nearby hills they look like a bed of gigantic truffles.

great industrial center and factories have sprung up as if by magic. The great establishment of the Pullman Company is the closest rival of the Standard Oil Refineries, and there are many smaller establishments. Among the prominent establishments of Richmond, may be mentioned the following: The Western States Porcelain Company, covering four acres of ground; Herbert F. Brown's new factory building, covering 45,-

tions makes interesting reading. The Standard Oil Bulletin has printed the following interesting account and it gives a most comprehensive idea of the great industry.

The steady normal development of a great manufacturing plant to the point where this refinery is today employing 1700 people with a pay roll of \$150,000, could not but act as a great stimulus to any commu-

ity. But the benefits and the inducements of the Richmond Refinery are not to be measured by the development of any one town. Rather might the plant and the industry be designated as one of the important factors in the recent development of the entire Pacific Coast. The establishment of the Richmond Refinery was one of the biggest single boosts to manufacturing and home industry in the history of California—possibly the biggest. And this because it provided what was so badly needed—a means whereby a larger percentage of the output of the California petroleum fields could be placed on the market at its full worth—as refined products instead of crude oil. To the advantage of both consumer and producer, its benefits extend the length of the western coasts of two continents from Nome to Cape Horn; also into Oriental countries. Wherever petroleum products are now marketed on the Pacific Coast, they are not Eastern products but the output of our own California fields.

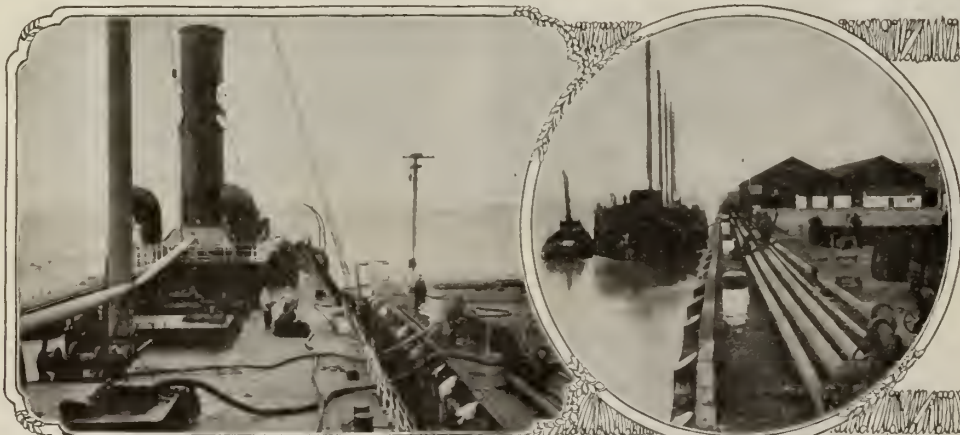
“But just what is an oil refinery?” some of our readers have asked us. “How do you refine oil, and what do you manufacture at Richmond?”



GENERAL VIEW OF

Briefly, crude oil is a complex mineral compound, and it is the work of a refinery to break up this crude material into its constituent parts—clarify and treat them, and manufacture them into finished products ready for the public's use. The plant at Richmond is one of the largest refineries in the world and manufactures practically all the main products obtainable from crude oil.

If you are familiar with Civil War history, you will perhaps recall the story of the resourceful “Johnny Reb,” prisoner of war. To vary monotony of the confinement and to cater to his appetite for spirituous liquor, he built a miniature still out of a coffee pot. Hav-



Deck View of a Standard Oil Company Tanker taking on cargo of Gasoline and Lubricating Oil. Hoses connect with feed lines from the Refinery.

Barge No. 95 at Point Orient. This craft has no power and is towed by Tankers to Coast Stations. Barrels on Dock contain Asphaltum for the New York Market



“Captain A. F. Lucas,” a Company Tanker of 42,000 bbls. capacity, in her home port, Richmond.

ing filled this with cornbread and water, he put it over a hot fire and as the vapors came off caught them in an improvised condenser—an old can soldered to the top of the pot. Primitive and miniature as was this improvised still, it is illustrative of one of the main processes of distillation—which in essentials is the same whether carried on in a coffee pot or a great battery of thousand-barrel stills. Beyond this the refining process is complex and technical—suitable only for scientific discussion.

Despite this fact, an oil refinery is by no means an uninteresting place to the layman. From point of size alone the Richmond plant is somewhat impressive, covering as it does a territory of 435 acres—nearly three-



RICHMOND REFINERY

quarters of a square mile and the equivalent of the entire industrial section of many a good sized town.

The raw material—or crude oil—for this Refinery City is supplied from the "Tank Farm" at San Pablo, five miles distant. San Pablo is the terminus of the 330-mile pipe line from the California oil fields, and the oil which is stored here in great oil tanks—holding an aggregate of two and one-half million barrels—is run down to Richmond by gravity as needed.

The selection of the correct crude oil for the particular product to be manufactured is an important consideration, for all Standard illuminating and lubricating oils and other products are made from selected crudes. If asphaltum for roofing or paving material is to be made, a crude oil shown by test to be best suited for this purpose is selected. In the same way by rigid tests crude oils are chosen for the manufacture of Pearl Oil, Red Crown Gasoline, Zerolene, and other products. A stock especially suited for the product may almost entirely lack the essentials that go to make others and the laboratory experts who determine these things and who later, after exhaustive tests, give a refined product its clearance papers, conduct their work with the greatest possible care.

And this Refinery City, to which the crude oil comes, is not merely big—it is busy; busy night and day, week in and week out, Sundays and holidays, from January 1st to December 31st, distilling, treating, filtering, testing,—with frequent shifts of men so that none of the work is slighted, no one overworked.

Directed by executives of long experience; manned by expert chemists, superintendents, and other men of scientific as well as practical training; provided with a physical equipment thoroughly modern and second to none in the world, Richmond Refinery is in a position to maintain with efficiency this intensive pace of manufacture. One hundred and seventeen big stills, with a total charging capacity of 60,000 barrels; ade-

quate condensers and receiving houses; forty-one agitators (which "look like giant truffles," as one visitor put it); 182 storage tanks; an engine house capable of developing 22,000 horse-power; and acid plant manufacturing 170,000 horse-power; an acid acid daily; a grease plant; an asphaltum plant; a can factory with a capacity of 25,000 five-gallon cans a day; a cooperage or barrel works; a machine shop; a tank car repair shop, and several pump houses are some of the main divisions of the refinery's equipment. And interconnecting the entire plant, making it a manufacturing plant, a maze of pipe lines—360 miles in all—through which are handled the crude and many of the refined oils, as well as steam, air, fresh and salt water used in their manufacture.

In addition to its manufacturing facilities, Richmond is admirably equipped for the prompt and economical loading of its products for distribution to the consumer. Pipe lines leading directly to the railroad yards are run along the "loading racks" beside

the tracks, and from these refined oils, gasoline and other products are run into the big railroad tank cars with which everyone is familiar. The extensive loading racks permit fifty cars to be filled at one time. All barrel and case goods are loaded into box cars direct from the warehouse platforms.



LOADING OIL AT RICHMOND

Of greater interest, perhaps, are the refinery's facilities for discharging its products by sea. A short distance from the refinery, extending almost a mile out into the bay, is the Richmond pier where Standard Oil Company tankers take on fluid cargoes for bulk distribution to its main distributing stations on the Pacific Coast, and to inland points reached by light draft steamers that ply on the Sacramento and San Joaquin rivers. At Point Orient, about five miles distant from the refinery, an ideal shipping point because of the deep water and protected location, the Company has another pier, storage tanks, and docks.

Products are pumped from the refinery to the storage tanks and then run by gravity down to the dock, and into the tankers and other vessels for shipment to the Orient and Central and South American ports. During the present year shipments bound for New York have also cleared from this dock, for the superiority of California Asphaltum has brought about a fast increasing demand for this product in the East.

Such is the Richmond Refinery, the Company's largest manufacturing plant. Its development from small beginnings to its present size has been healthy, logical, and in entire accord with the demands of the market for refined products and with the development of the Company's crude product and that of the producers from whom it purchases oil. The first stills were completed and fired at Richmond on July 2, 1902. At that time but 80 men were employed at the refinery and during the first months they refined only 780 barrels of oil a day. Since its beginning, construction work at Richmond has never ceased, and today 1700 men are required to operate the plant, which is refining on an average 60,000 barrels of crude oil daily. Among

other things, this crude has produced, during 1913, over two and three-quarter million gallons of Zerolene, the automobile oil, and over 1000 tons of Mica Axle Grease and Zerolene greases.

The Standard Oil Company recently started the manufacture of Calol Liquid Petrolatum, and for so doing is to be credited with having introduced a new product of California crude petroleum. Calol Liquid Petrolatum (heavy) meets the requirements of the U. S. Pharmacopoeia, Br. Ph., Ph. Russia, Ph. German and others.

The refinery is still growing and will continue to grow, healthily and logically, as it has in the past. As the demand for its product increases, so will the capacity of the refinery be increased to meet that demand—just as El Segundo and the Company's newest refinery at Bakersfield were built to supply the increasing southern trade of California and adjoining states. And always will every care be taken, every known means be employed, to make Standard products everything that their name implies—uniform products of the highest quality and reliability.

Richmond Notes.

Sixty-six passenger trains stop at Richmond daily.

Richmond has seventeen miles of the best and safest deep water front. Its inner harbor, when completed, will represent a total expenditure of \$8,000,000. The new Municipal Tunnel connecting therewith is finished and this, together with the new Municipal Wharf under construction, will represent a total expenditure of over \$450,000.

The total number of vessels calling in a year at the Standard Oil wharves was 5,424, the net tonnage was 1,985,999 tons. The total tonnage discharged and loaded was 2,333,273 tons.

Richmond has the cheapest fuel oil supply and cheap electric power. There are 8000 horse-power electric motors connected in Richmond.

The total shipments of petroleum oils of all grades from the Standard Oil Refineries in Richmond for one year equalled 2,169,218 tons of 2,240 pounds a ton.

It is reported the four shipyards located on San Francisco Bay are contemplating the consolidation into one "Big" plant and that this will be located on Richmond Inner Harbor.

The Standard Oil Company recently purchased \$10,000 worth of postage stamps at the Richmond Post Office to be used for the mailing of 90,000 sample bottles of its new medicinal oil to physicians and surgeons all over the world.

The contract for the first concrete steel wharf to cost \$250,000, of the Richmond Inner Harbor project, has been let and two pile-drivers are placing the 72-foot concrete piles, which weight from 12 to 14 tons each, into the bay at the terminal of the tunnel highway.

Richmond has already spent over \$400,000 on its Inner Harbor.

The Standard Oil Company recently dispatched the first train of its series of tank specials, composed of twenty-five cars each, which are to make the trans-continental trip from Richmond to New York in sixty-eight hours and their contents will be loaded into trans-Atlantic oil tankers. The train carried 500,000 barrels of Petrol. Guards accompanied the special train, whose cargo is valued at \$1,500,000, as far as New York. The total shipment will consist of three

hundred cars; the whole capacity is over 4,000,000-gallons.

The Richmond Pressed Brick Co., manufacturers of various clay products, are contemplating improvements which will make the plant one of the most modern on the Pacific Coast.

Churches Help the Oil Campaign.

One of the most unusual features of church work has been found in the Taft district, where the churches of that part of the state have united in working for the betterment of oil conditions. Addresses were delivered from several pulpits on the topic of preserving the Midway and Elk Hill districts in Kern County.

When it is realized that if the action of the Government is carried forward it will mean the depopulation of a vast territory in California, which will return to desert land, it can well be understood why the churches are so much interested in the matter for this is of vital import to their carrying on the good work which they are doing.

Navy Files on Kern Oil Lands.

The United States Navy Department has posted notices on 69 sections of land in the Midway and Elk Hills Oil District, stating that the United States Navy Department had taken possession and that all persons were forbidden to explore for minerals or locate on the land. The notices posted stated that it was done in accordance with the orders to withdraw for the United States Government naval reserve.

Though this notice is to the effect that the Government had taken charge, it is understood that it does not in any way change the status of the various properties as they are now handled. The notices posted are placed by the Government as a precaution against operators or locators taking up land in the future. It is believed that all the present locators are to continue as at present until such time as the final disposition is made of their cases.

Nearly all of the 69 sections of oil land filed on by the Navy Department are in process of development by individuals or corporation.

My First Visit to Richmond and as it Is Now

(By CLARENCE E. EDWARDS)



**Herbert
F.
Brown,**
Owner of
the Andrade
Properties

When I first saw Richmond, California, it was a large tract of ranch land, and the Standard Oil Company was beginning the installation of a refining plant. An enthusiastic friend urged me to buy some lots for what he said was a "song" but my reply was that I couldn't sing.

When I dropped off the train at Richmond early in November of this year for my second visit I could scarcely believe my eyes. Then I hunted those lots that I didn't buy. I am ashamed to tell it. The two lots are now worth \$60,000, and still climbing. Pretty good increase since twelve years ago I could have bought them for \$500.

I wondered if there were any more opportunities for a singer and felt that if there were my voice had improved and I could sing for a lot that would make that much money. What impressed me was the peculiar location of Richmond, and as I mused over what I saw I remembered that it, like San Francisco and New York is situated on a peninsula, the apex of which caught the first tide of settlement, and then its growth could go but one way—back up the peninsula.

Like New York, Richmond's growth must go to the north and its natural trend must be eastward toward the rising ground. First comes the factory and business sites and then the home sites, and this combination in Richmond carries the city eastward of the tracks of the Santa Fe railroad and on up toward the rolling hills that guard the peninsula on the East and North.

With this assumption in my mind, I strolled toward the rising ground and my ideas found confirmation, for first I passed the plant of the Western States Porcelain Company, and then factory sites in various stages of occupation. Still farther on came a fine apartment house and stores and then cosy bungalows and more pretentious dwellings. Paved streets stretched away into a beautiful residential section, and in the background rose the majestic pile of the University of California, at Berkeley, only a few minutes' ride away on the electric cars constantly whizzing by.

Inquiry developed the fact that this part of Richmond had been selected by one of those far-sighted men who arise when occasion demands, and had been laid out as the logical home and business center of what is destined to be the greatest industrial city of the Pacific Coast.

When Herbert F. Brown first saw Richmond, twelve years ago, he had an opportunity to buy at a "song" and this started him in Richmond property. He now has learned to sing it so well that it is said of him that he even dreams of Richmond and its great future, so that the entire twenty four hours of every day is taken up with his efforts to enlighten the world regarding what he knows to be the most wonderful opportunity that is knocking at humanity's door today.

Mr. Brown started with five acres and a debt, but his faith was no stronger than his works, for he subdivided his five acres, sold them, cancelled his debt and bought more land. And this is the program he has been carrying out ever since he made that first trip, until today he is one of the largest individual land owners of Richmond, and this fact is the result of his unlimited faith, for he has put his money back into Richmond property as fast as he has made it.

Those who are acquainted with Mr. Brown and his properties and his methods, pay him the high compliment of saying that he has never had a dissatisfied customer, and those who bought property of him on the small payment plan and continued the payments to the end, all have either made good money out of their investment, or today own property that they would not sell for many times what they paid for it.

Mr. Brown is a man of remarkable foresight, and his keen judgment has enabled him to foresee with unerring certainty population movements, and it is this judgment that induced him to open his Andrade tracts—the logical sites for factories, business houses and homes. These tracts are sightly and central, being in the geographical center of the city, and they present every opportunity for the manufacturer, the business man or the home seeker. They border on two great trans-continental railroads, and are close to deep water. Raw material and cheap fuel are centered here, and the surroundings are such as to insure a contented army of employees, for the families have the advantage of a healthy climate and finest educational facilities.

As Richmond grows—and that it is growing by leaps and bounds every one conversant with it knows—it must grow to the North and East of the railroads, consequently it must grow toward the Andrade tracts and beyond them, for in every other direction it is hedged either by natural barriers or by unpleasant surroundings and conditions. Here again is proven the foresight of Herbert F. Brown, whose energy and whose thought have done so much toward the upbuilding of Richmond, and whose belief in her future is now responsible for much of her development.

Many tales have been told me of lost opportunities in Richmond by those who failed to take advantage of offerings in the past and these dilatory ones bemoan the fact that they failed to grasp these opportunities because they can never have them again, yet today these same opportunities are there and are knocking at their doors unheeded, for they are as blind today as they were ten and twelve years ago. Others, how-



VIEW TAKEN FROM TOP OF ANDRADE

APARTMENT BUILDING AT RICHMOND

ever, tell a different story and on every hand are men who have come out of a life of bondage because of good investments in those past years, and these men are still buying property and looking to the future for still further betterment of condition thereby.

What Richmond has done in the past few years is but the prologue of a greater development where those fortunate ones who take advantage of present conditions and answer opportunity's knock at their door, will reap a harvest of prosperity undreamed of by those who look back at their lost opportunities because they

missed a few hundred or a few thousand dollars.

Standing on the top of the apartment house which was built in the Andrade tract in the face of strenuous adverse advice and which was fully occupied from the day of its completion, I could not help summarizing Richmond's conditions.

It is the natural home of factories because of its unequaled location where rail and water meet.

It is the natural center for raw material, cheap fuel and contented labor.

It has every advantage for the home, being close to

the University of California, which has the second largest enrollment in the United States, and being provided with a magnificent public school system.

In its future growth it must go eastward of the and northward along the trend of the bay.

Property that is now selling at minimum prices in the line of the city's growth will rapidly increase in importance and value.

There are greater possibilities for success in real estate purchases now than were apparent ten years ago, and the possibilities of large returns are unquestionable.

Real estate bought on the small payment plan is better than the savings bank and its returns are sure and safe.



SECTION MOULDING DEPARTMENT Western States Porcelain Co., Andrade Tract, Richmond

Oil Company Wants Big Damages.

Suit to collect damages aggregating \$137,750 has been begun in the Superior Court by the Pacific States Refineries against the National Petroleum Company. Serious charges of mismanagement and carelessness are part of the complaint. Damages are asked for because of the property not being handled in the proper manner.

Improvement in Export Oil Trade.

One of the most sharply marked improvements noted in the petroleum business is in the export trade, and notably so in refined products. The official government reports show that 217,824,165 gallons of refined products were exported in August last compared with 135,341,714 gallons in January. The record of the several months since the first of the year shows a steady increase in shipment. The volume of exports in crude oil has been more irregular in that time, but in general shipments have been on the increase, the total for August, July, June and May being considerably larger than that of the first four months of the year. Exports of gasoline make a good showing but were much smaller in the last four months than in the first four months of the year.

General Petroleum Condition.

Captain John Barneson, President of the General Petroleum Company, has expressed the opinion that the rapid rise in the company bonds from 26 to 31 is due to improved conditions in the oil market. In speaking of this, Captain Barneson said:

"Statistics show 58,000,000 barrels of oil in storage, and of this only 5,000,000 could be drawn upon. This is only five month's supply at the present rate of consumption. Stocks are being drawn upon at the rate of 1,000,000 barrels a month. There are no discovered but undeveloped fields in this State, and the day of the gusher is past. Fuel consumption on this Coast for the past twenty-five years has averaged an increase at the rate of 13 per cent per annum. Under these circumstances, there can be but one direction for the oil market.

"Of all the large companies, the General Petroleum is least affected by Government suits, for virtually all the properties are patented. It has the largest proportion of shallow territory, and is, consequently, in the best condition to increase its production rapidly and at the lowest cost."

Bureau Wants Information.

The following circular has been issued by State Mineralogist Hamilton in connection with the work of protecting the oil fields against water infiltration.

"The new work of the State Mining Bureau in protecting the oil fields against flooding by underground water and in advising the most efficient plans of development cannot reach its desired efficiency until all the necessary information has been furnished by the operators. The logs of all wells are, of course, absolutely necessary because the work of the bureau is not based on any sort of magic or ability to see into the earth, but is based on a painstaking effort to keep together all the existing records as evidence. A great many logs are now being prepared by well owners on blanks sent out by the bureau and the next few weeks should see the beginning of a valuable collection of records not heretofore available for use in directing new work.

"The first step in complying with the law and co-operating with the State men in the Mining Bureau is

the appointment of local agents by the operators, the agents to a certain extent, represent the well owners and deal directly with the deputies of the State Oil and Gas Supervisor, thereby dispensing with needless correspondence and red tape. The agents must reside in the county where the wells are located and in most cases the superintendent of the properties is a logical person to serve as an agent. There have been 164 agents appointed to represent 223 companies."

Big Earnings for Union Oil.

According to statement made by large holders of interests in the Union Oil Co. of California, this company will earn during the present year approximately \$3,300,000 to the credit of the stock against \$2,735,524 last year. This is an increase of \$565,000, and is at the rate of 9.94 per cent, on the stock, of which there is outstanding approximately \$34,300,000, including the stock sold to Andrew Weir and his associates.

Of the \$4,000,000 collateral trust notes originally outstanding, the company has paid \$2,000,000 secured notes and has anticipated the maturity of another \$400,000. The company has more than sufficient cash on hand to pay all the notes outstanding.

Union Oil has two large tankers building, one of which will be launched this month, and the company has been making cash payments on these vessels as they have fallen due without additional financing.

High Price Lowers Dividends.

One of the peculiarities of the late flurry in oil, if it may be so termed, is the fact that the Mascot Oil Company has been compelled to reduce its dividend rate as the result of the rise of prices at the well. When low gravity oil was marked up to 37½¢ a barrel at the well recently, the company was obliged, under the terms of the lease, to resume drilling operations. The expense entailed necessitated a cut in the dividend rate, which was reduced from 1¢ to ½¢ a share per month. The company operates in the Midway field on land leased from the Mt. Diablo Oil and Development Co.

Oil Notes.

The White Star Oil Co. declared a dividend of a half cent a share, amounting to \$5,000. The company operates the little Seste Canyon in Ventura County.

The Wabash property near Coalinga, which has been in the hands of a receiver, has been purchased by L. McCray and other parties. The properties have been on the non-producing list for a long while.

The Eastern Consolidated lease, comprising 10 acres in Kern River field, has been taken over by William Cohn and George E. Whittaker.

The Associated Oil Company notified the San Francisco Stock and Bond Exchange that hereafter dividends will be paid quarterly instead of semi-annually. The last dividend was 2 per cent and 1 per cent extra, or at the annual rate of 6 per cent.

The Carter Oil Company will apparently get the 3,300,000 barrels of Cushing oil from the Quaker Oil and Gas Co., over which litigation was threatened. The Quaker Company made no answer to the injunction proceedings and the hearing was postponed until Dec. 9, which would indicate that a compromise was under way.

California Derrick

The Oil Authority of the Pacific Coast

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

Peace and Good Will.

"Peace on earth and Good Will toward men," is the most beautiful doctrine ever promulgated, and as Christmas approaches we are reminded that if ever in human history this doctrine was needed that time is the present.

All eyes are turned to Europe where the greatest human conflict ever waged is raging, and all hearts are praying that peace may come between the struggling nations. But while we pray for peace we wonder how it can come about. Will it come through war that will continue until exhaustion compels cessation, or will it come from conditions other than war?

It is an elemental struggle that is now going on in Europe. It is as if the titanic forces of nature were pitted against each other. Humanity has scaled off the veneer of civilization and is at grips just as our savage forebears were when they wielded stone implements and when might was right.

A ship carrying a load of visionary enthusiasts is on its way to Europe with the avowed purpose of "getting the boys out of the trenches by Christmas." It is not well to ridicule or decry honest endeavor, no matter in what direction it is pointed, and all the ridicule that may be heaped on Mr. Ford and those who went with him must of necessity fail through its own lack of merit. That Mr. Ford is in earnest in his desire to put a stop to the terrible war is plain. That there may be with him certain ones who have taken the trip through desire for personal notoriety is also undoubtedly true. Because these latter may be with Mr. Ford is no reason for decrying either the man or his movement.

Mr. Ford is carrying the Christendom old doctrine of "peace on earth and good will to men," and whether he succeed or fail in this instance, he at least, is setting an example of effort that his disputants would do well to emulate.

It is significant of the possibility of success of Mr. Ford's mission that the warring rulers fear he may do something to stop them from sending their people to

the trenches for already notice has been given that the ship will not be permitted to land, nor will the peace envoys be allowed to get access to "the boys in the trenches." Evidently there is fear on part of those who are waging this war that if the men who are fighting it get to hear reason they will throw down their arms and demand to know what the war is about.

Bitten by His Own Dog.

It is said that one of the unkindest acts to which man may be subjected is when he is bitten by his own dog. Andrew Furuseth is in that situation just at present over the "seamen's bill" which he was instrumental in having passed by Congress.

Furuseth for years has been the prime agitator in all matters pertaining to the sea and has been responsible for much trouble to ship owners. His latest efforts in these lines was the passage of the bill affecting the Merchant Marine so severely it drew all of our ships from the over-seas trade. Through his keeping dangling before the eyes of a Democratic Congress and a Democratic President, the bauble labeled "seamen's vote," he got the necessary legislation, but now he is finding that legislation is a two-edged tool and the result is that many of the sailors who had formerly no difficulty in securing jobs are barred from employment on account of physical disability. So great is this development that Mr. Furuseth now finds himself the target of abuse from those he claimed to have been defending in this specially pernicious bit of legislation.

Mr. Furuseth, naturally, should be the last man to criticise the "seaman's law," and in fact he is and his present criticisms make the objections unanimous.

Lane Sees the Light.

Secretary of the Interior, Franklin K. Lane, has issued a formal statement which intimates that he will urge upon Congress, the enactment of legislation which will recognize the equitable rights of oil operators. This statement on the part of Secretary Lane is because of his belief that the withdrawal order of President Taft is wrong.

In the statement of Mr. Lane, there is a significant review of this withdrawal and how it came about.

He says: "There was doubt at the time of the withdrawal as to its legality, there being no specific statute on the books authorizing the action. Congress at its next session passed an act, authorizing such withdrawal and the same lands were subsequently withdrawn again in July 1910. It was the opinion of many members at the bar that the withdrawal of 1909, was void and the operators proceeded to act in accordance with this advice."

It will be remembered that the result of this second withdrawal was that large numbers of operators who were engaged in drilling under the belief that they were right, were compelled to stop and the government insisted that the 1909 withdrawal was correct. This stand on the part of the government was sustained by the decision rendered last Spring by the Supreme Court of the United States.

Secretary Lane undoubtedly understands the situation better than any of the judges of the Supreme Court, a majority only of which sustained the government in its contention, and there is no question but what there will be a strenuous effort made by Secretary Lane during the coming session of Congress to

have this matter settled for all time and when it is settled it will be settled in favor of those who spent their hundreds of millions of dollars in developing the oil lands of California under the impression that they had the right to do so.

The Oil Situation.

It will be remembered by the readers of The Derrick that last June we predicted that before the first of the year there would be a material change for the better in the oil situation in California. At that time, there was a great over-plus of oil in storage above ground and wells were shut down in all of the fields. Operations were stopped, prices were so low that nothing could be done with the oil if it was gotten out of the ground. The first change noted began along in the latter part of August, and since then there has been a rapid and continuous increase for the better. The price of oil at the wells has gone up steadily. The price of gasoline has advanced, and in the East oil has reached that mark which all oil men look for, \$2.00 a barrel.

In California fields there is a general movement toward betterment. Derricks are being erected and drilling is going on in a number of new fields with splendid results. The demand for oil is increasing all over the world to the extent that today the above ground oil in California has been reduced almost below the safety point.

Taking all indications as they lie, we can see nothing but improved conditions from now on. Everyone who is interested in oil will surely see better times than has been the case in the last four or five years. With the continued activity of the Oil Industry Association of California with the increased demand for oil, there is going to be such activity as will recall the balmy days of old when fortunes were made over night in the industry.

While The Derrick is optimistic, it does not wish to be on the side of too much optimism, but at the same time we cannot help seeing that there is nothing but good in sight in the oil industry and all those who now enter into the business or remain in the business are sure to have better returns than they have been having for some time.

Phenomenal Rise in Stocks.

A new record for trading was established recently in the San Francisco Stock and Bond Exchange and the Los Angeles Stock Exchange in oil stocks. Heavy transactions were especially noted in Associated Oil stock which touched \$66 a share as compared to \$47.50, less than a month ago. This is the high point for Associated Oil and is the highest that it has ever sold. Reports and rumors on which the heavy buying of the stock was based was discussed wherever oil men met to talk over conditions, and the failure of other stocks to join the upward movement of the Associated Oil was commented on.

It is to be noted that this rise followed the announcement that the quarterly dividend was to be at the rate of 4 per cent. per annum, which brought about a sharp decline, but it was immediately followed by an active upward tendency. There was, however, later, a sharp collapse of the boom and it sold off to \$54.25.

More Oil Burners for the Coast.

Five more vessels of the Pacific Coast Steamship Co. are to be converted into oil burners. They are the steamers Spokane, Umatilla, Senator, City of Pueblo and City of Seattle. Direction to make the change from coal to oil burners is the result of a visit and investigation in the matter of fuel by President W. H. Barnum, who has been here for two weeks or more. The Company's larger steamers, the Congress, Governor and President, are already oil burners, and the conversion of the five named would have been made long ago but for the fact that the Pacific Coast Company owns extensive coal mines which have nearly always been the source of fuel supply for the Company's vessels.

Splendid Work of Oil Association.

At last it looks as if California's oil men were getting together in a most effective way. The organization of the Oil Industry Association of California has been one of the best things that has happened for the oil industry of California in many years. Unlike many of its predecessors, it has not confined itself to saying what it is going to do, but it has really been doing things and doing them so effectively that already the Government at Washington is sitting up and taking notice.

So effective has been the work of the Association, and so enthusiastic are its organizers, that oil men all over California are joining the organization by hundreds, and in every oil locality of the State there are now subordinate organizations, all doing good work.

One needs but recall the few things that have been done in the last two weeks to know that the Oil Industry Association means business.

When a contractor began putting out notices in the Taft district claiming the oil lands as part of the Naval reserve, President Roy Bishop of the Oil Industry Association immediately wired to Washington and asked the President to stop the work and look into the matter. As a result, the contractor who posted the notices ceased his work, stating that he had received orders from Washington to post no more.

The Association is now working diligently on this question and on all questions in relation to the withdrawal of lands by President Taft. So effective has been this work that Secretary Lane has come out in an open letter and announced that he thinks that the withdrawal order was unwise and that he is in favor of having it rescinded.

In addition to this effective work, steps have been taken to enlist the good offices of Congressmen and Senators at Washington to help the California oil situation by enacting such laws as will relieve the situation very materially.

The Derrick can see nothing but good coming from this Association and strenuously urges all people who are interested in any way whatever in the oil industry, whether it be in the producing end, the refining end or the manufacture of implements used in the oil industry, or even owners of stock in oil companies, to lend their aid to the movement by joining this association.

CALIFORNIA CONCENTRATES

Kern Trading and Oil Co. is building eighteen miles of pipe line in the North Midway field.

St. Paul Consolidated Oil Co., on section 26, 20-14 in the Coalinga field, will redrill the Nos. 6 and 9 wells.

A 1500-barrel gusher was struck by the Trojan Oil Co. on section 32, 12-23 on the Maricopa flat.

The Kern Trading and Oil Co. will redrill the No. 1 well on sections 5, 37-23, Taft district.

The Olig Crude Oil Co. is preparing to drill a new well on sections 32, 31-23 near Fellows.

The Shell Oil Company of California plant in the Dean addition of Fresno will soon be in full operation.

The Associated Oil Co. is grading ground on section 13, 26-20 for twenty-two locations for new wells.

Much activity is being shown by the various companies in the Lost Hills district.

The Edmondo Midway Oil Co., on section 22, 32-24, is preparing to drill another well.

El Centro and Imperial, California, men are joining in a syndicate for the purpose of drilling a test well for oil about five miles west of Dixieland.

The Union Oil Co. has started a wholesale business in Corona, and H. F. Armour, who has been connected with the Company at Riverside, has been chosen agent.

The Associated Oil Co. is preparing to make improvements to its plant in Martinez, to cost in the neighborhood of \$500,000.

The Meteor Oil Co., Los Angeles, incorporated with a capital of \$25,000. John Tweedle, Jos. Mertes and Arthur J. Abbott are the incorporators.

The Standard Oil has purchased half of section 16, 27-19 in Antelope Valley from the Oil Exploration Co., Ltd., for \$40,000.

The General Petroleum Co. is breaking up its pioneer camp in the barren Stage Brush district of Elk Hills with the intention of abandoning the camp.

Five new wells are being started by the Kern Trading and Oil Co. on the leases of that company in North Midway fields.

The General Petroleum Co. sees much activity ahead in the way of drilling in the Midway and Lost Hills fields.

Since taking over the local property of the Monte Cristo Oil and Development Co. near Maricopa, on section 1, 11-24, the Standard Oil Co. is preparing for a busy season's work on the lease.

The Universal Oil and Gas Development Co., of Phoenix, Arizona, has been incorporated for \$1,000,000. Wm. Ribble, Isaac Ruby and H. W. Long are the incorporators.

Harry Steen of Nevada City has made arrangements to lease 250 acres of the holdings of himself and brothers in Monterey County to the General Petroleum Company.

W. A. Culp and A. J. Wallace, who are at the head of the Brea Gasoline Co. and the La Habra Gasoline Co., are soon to build a third plant on the West Side fields.

The St. Helens Petroleum Co. is rigging up on the No. 11 well on section 16, 32-24 shaft and No. 10 has been up for some time. It is standing idle. Both of these wells will be ready to start at a moment's notice.

The General Petroleum Co. is preparing to drill four new wells immediately upon completion of a pipe line which is now being laid to connect the property with the Bear Creek Camp in North Midway.

Forty companies are now operating in the Oatman, Arizona, field, and development work is increasing every day. New machinery is arriving in camp every twenty-four hours.

The State Consolidated Oil Co. has leased from Wm. Sexton Estate Co. the northwest quarter of lots 3 and 4, all in section 7, 3-22 near Ventura, and all the land under lease will be drilled in the event the well now standing in cement developing as it promises.

There is a report current that the British Consolidated Oil Corporation is negotiating a sale of the northeast quarter of section 24, 20-14, formerly the Wabash Oil Co., to Tom O'Donnell and Lu McCray of Los Angeles. The new owners will drill for a lower sand.

The Providential Oil Co., San Diego, operating a lease in Orange County, has been permitted to issue \$50,000 par value of bonds to net the company not less than 80, and to issue 250 shares of its capital stock with each bond of the denomination of \$250.

A new district 10 miles northwest of Buttonwillow is being explored by different companies and six trucks of machinery are being hauled with lumber and casing, and drilling will begin on section 23, 16-17 in a short time.

The Niltac Oil Co., Phoenix, Arizona, has incorporated for \$1,000,000; Henry C. Catlin, 27 William St., New York, and J. Wesley Deane, 36 Church St., New York, Albert G. Hubbel, 25 Broad St., New York, and A. Linnington Normal, 25 Broad St.

Drilling will soon begin 44 miles northwest of Imperial, California, by a company of local men. Those interested in the organization are James Smith, Gus L. Levere, N. M. Wessel, W. H. Galt, J. F. Richardson, Henry Dyke, J. B. Conley and Messrs. Gordon Hall and Taylor.

F. J. Hauser, Secretary of the Combined Oil Co., operating on section 14, 31-22 in the North Midway, is in the fields conferring with J. B. Carter of the San Joaquin Light and Power Co. relative to the installation of motors for the pumping of the various wells on the lease.

New Work Reported On.

The following reports of proposed work by operators in the different fields in the State has been received by the State Mining Bureau. The new work proposed is shown in the following table:

Begin drilling new wells:	Well No.	Sec.	Twp.	Range	Field
Associated Oil Co.	41	35	31	22	North Midway
Associated Oil Co.	43	35	31	22	North Midway
Jackson Oil Co.	5	11	30	21	McKittrick
Test of water shut off:					
Union Oil Co.	14	13	20	14	Coalinga
Maricopa Nat. Petroleum Co.	5	6	11	23	Sunset
K. T. & O. Co.	141	12	30	21	McKittrick
Honolulu Consolidated	2	12	32	24	Midway
Honolulu Consolidated	7	10	32	24	Midway
Associated Oil Co.	24	30	28	28	Kern River
Associated Oil Co.	52	35	31	22	Midway
Honolulu Consolidated	6	10	32	24	Midway
K. T. & O. Co.	33	5	32	23	Midway
K. T. & O. Co.	9	33	31	23	Midway
Amalgamated Oil Co.	40	23	3	10	East Coyote
Rice Ranch Oil Co.	13	Santa Maria Field			
Pinal Dome Oil Co.	11-A	24	9	34	Santa Maria
Deepen or re-drill present wells:					
General Petroleum	7	2	19	15	Coalinga
Claremont Oil Co.	14	24	20	14	Coalinga
Claremont Oil Co.	5	24	20	14	Coalinga
California Oilfields	7	10	19	15	Coalinga
California Oilfields	29	27	19	15	Coalinga
General Petroleum	45	3	29	21	Belridge
Belridge Oil Co.	112	33	28	21	Belridge
Kern River Oilfields	B-2	33	28	28	Kern River
Peerless Oil Co.	39	31	28	28	Kern River
Calhmet Oil Co.	4	3	3	19	Bardsdale
Abandon present wells:					
Associated Oil Co.	4	34	31	23	Midway
Honolulu Consolidated	6	10	32	24	Midway
Hidalgo Oil Co.	1	Simi Field			



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Standard Oil Company
(California)

California Oil Industry's Unhappy Condition

CHRONOLOGICAL SUMMARY

Previous to 1909—

PROSPECTORS ENCOURAGED TO SEEK OIL ON DESERTS.

September 27, 1909—

PRESIDENT TAFT WITHOUT WARNING WITHDREW DESERT LANDS FROM MINERAL ENTRY.

VALIDITY OF WITHDRAWAL DOUBTED BY EMINENT COUNSEL, INCLUDING PRESIDENT TAFT.

June 25, 1910—

PICKETT BILL PASSED BY CONGRESS. WITHDRAWAL NOT RATIFIED BY CONGRESS.

June 14, 1913—

FEDERAL JUDGE RINER DECIDES PRESIDENT HAS NO AUTHORITY TO WITHDRAW LANDS. (Midway Oil Co. Case.)

May 29, 1914—

FEDERAL JUDGE DOOLING DECIDES TAFT WITHDRAWAL ORDER INVALID.

February 23, 1915—

SUPREME COURT DECIDES TAFT WITHDRAWAL ORDER VALID, FIVE AND ONE-HALF YEARS SUBSEQUENT TO ITS ISSUANCE.

Summer, 1915—

DEPARTMENT OF JUSTICE BRINGS TWENTY-FIVE OIL LAND DISPOSSESSION SUITS; RECEIVERS APPOINTED.

October 15, 1915—

OIL INDUSTRY ASSOCIATION ORGANIZED TO INFORM CONGRESS AS TO CHAOTIC CONDITIONS EXISTING IN OIL INDUSTRY.

The Oil Industry Association of California has issued the following statement of conditions of the Petroleum industry of California, and it is well worth the reading of every one interested even remotely in oil:

The unfortunate condition confronting the oil industry of the State of California is so critical that the Oil Industry Association, composed of men connected with the oil, business and banking interests of the Pacific Coast, has been formed for the purpose of informing Senators and Congressmen as to the exact conditions existing in California, with a view to securing remedial legislation.

This industry has grown to such proportions in the State of California that our citizens do not fully realize its importance as our leading basic industry, nor do they realize the extent to which practically every industry in the State is dependent upon the production and use of oil. Neither are our citizens fully aware of the fact that the Government is claiming and endeavoring to recover forty per cent of the producing properties in this State, and has brought a large number of suits, with more to follow, to accomplish this purpose. If the government should follow to their logical conclusion the suits already started and to be started against oil operators, it would result in ruin to about two hundred and fifty operating companies and injury to many thousands of stockholders, besides the disastrous effect upon business conditions in general in the oil fields and throughout the west.

The object of this statement is to impress upon our citizens the importance of the oil industry, and the great danger impending, so that they will lend their assistance in endeavoring to save California's principal basic industry from destruction. The unfortunate position of the oil men of this state has been brought about almost entirely by the lack of proper legislation, and they are now applying to Congress for the enactment of just and equitable laws.

In this state two hundred and fifty oil-producing companies are operating on approximately 35,000 acres of unpatented government land held under developed locations. These companies have been operating on this land for approximately five to ten years, and recently the Department of Justice has brought suits, and is preparing other suits, to recover this land and its products, forfeit the improvements and vest the title again in the government.

The fact that the Government has disputed the titles to this land and brought the actions mentioned, has had the effect of bankrupting several of the companies; destroying or seriously impairing the credit standing of all of them in the community; impairing normal business conditions in the populated centers of the districts affected; has created concern on the part of our state banking interests; has thrown thousands of men out of employment; reduced the production of oil; caused financial loss to thousands of innocent stockholders, merchants and others who derived their sole income from the production of one of California's great natural resources; and, in addition, has shaken to its very foundations the greatest industry in the State, with consequent effect upon all other interdependent industries.

All operators of unpatented oil lands are involved, regardless of the validity or invalidity of their claims. No one is safe in dealing even with the soundest unpatented claim, for no one can know which will next be subject to attack by the government. As a result, the marketing companies will buy no oil product on unpatented lands, and those producers who are certain of their rights are as helpless in selling their oil as those who are appealing for relief in respect to their titles.

Unless the government can be prevailed upon to stay or discontinue actions against the oil companies, every citizen of the Pacific Coast will be affected directly or indirectly, due to direct financial result and also to the increased price of oil which will follow decreased production. Bakersfield, Taft, Maricopa, McKittrick, Colalinga and Fresno are already feeling the result of the

government's attitude in attempting to prevent our citizens from benefitting from the new wealth which they have created by developing the resources of the desert, thereby permitting the Pacific Coast to enjoy cheap fuel, encouraging manufacturing and other industries to further develop our western states and give employment to their citizens.

The chief cause of the unfortunate condition in the oil industry today is due to the fact that the United States has never had laws specifically applicable to the location and development of oil on the public domain. Prospectors have been permitted to locate oil land under the placer mining laws, which were only partially suited to the acquisition of oil lands. The government has for years encouraged the prospector to locate and discover oil on public lands through the publication, reports and maps of the Geological Survey and other bureaus.

The prospector has been prompted to engage in the development of oil by the protection given to his operations under the placer mining laws, although technically no right was acquired prior to discovery. But prior to September 27, 1909, the government never exacted compliance with the technicalities of the placer mining laws as applied to oil lands. Possession and claims prior to discovery were recognized, although the placer mining laws require that mineral must be discovered as a prerequisite to location. But in the discovery of oil in the San Joaquin Valley fields of California an expenditure of \$50,000 or more in drilling to depths averaging 2000 feet, is not unusual for final determination of the oil bearing value of the land. In many instances, two, three or even four holes have been

drilled to prove a claim by discovery. Prospectors spent these large sums in the positive belief that the government would continue to give them patent, if successful in their prospecting. Preliminary to the actual drilling was the important work of selecting the land, entering into contracts for its development, staking the claims, and preparing for the actual development. In the arid lands of the San Joaquin Valley, with neither water nor roads for thirty, forty or even sixty miles from the scene of development, these were matters that could only be accomplished slowly, and with much labor and hardship.

On September 27, 1909, without a word of warning, President Taft temporarily withdrew from mineral entry practically all of the public oil lands in California pending legislation for their future disposal.

Had there been a suitable law for the acquisition of oil land, the order would not have affected the operators. Indeed, it probably would never have been made. Because of the failure of Congress to pass the legislation asked for by President Taft, the government now treats the temporary order of withdrawal of September 27, 1909, as a permanent withdrawal. It seeks to oust operators not actually at work on that date, although they had previously selected their land and have since then and during the five succeeding years expended millions of dollars in the development of the land and discovery of oil thereon, all without protest or warning by the government.

Even after thousands of dollars and months of labor had been expended on land located in the manner heretofore prescribed and recognized by the government, these pioneers of development on the morning after

CITIZENS, TAXPAYERS, WAGE EARNERS OF CALIFORNIA

Your public interest and your private pocketbooks are directly and adversely affected by the Federal Government's avowed intent to seize privately developed wells representing approximately One-Third the entire oil production of this state, and this at a time when the production is 1,000,000 barrels a month less than the actual sales.

Consummation of the Government's confiscation plans means virtual elimination of the independent producer from the California oil fields.

The Government's attack is not made in the name of Conservation. The Conservation problem is not involved in this issue, since it deals with lands already developed and therefore beyond the reach of conservation.

The Government brings no charge nor suggestion of fraud against the Californians who have developed the oil fields—whose courage and energies have given this state one of its greatest industries; made manufacturing a possibility in California.

The Government has officially stated through its principal spokesmen that the claims of the California oil men are JUST and HONEST. It insists, however, upon taking technical advantage of a judge-made law given nearly six years after the establishment of the great oil industry and the industries which depend upon it.

The activities of the Government have curtailed production. The storage supply of oils in California is rapidly diminishing. Gasoline, illuminating, road and lubricating oils have advanced sharply in price.

Counties have lost tax revenues. Wage earners have been deprived of their employment.

You, taxpayers, wage earners, consumers of oil, gas and oil products have been penalized and no public interest has been conserved; no public good can be accomplished thereby.

If the Government's confiscatory program is carried out, the prices of oil, gas and all other oil products, some of which have already advanced from 10 per cent to 25 per cent, necessarily will be greatly increased.

ONLY CONGRESS can give California and her citizens the relief they are entitled to.

The Oil Industry Association is a voluntary association of consumers and producers, business men, professional men, mechanics, all vitally interested in California. It was organized to enable the people of California to present their case to Congress.

Will you help this Association help you and California? Ask your Chamber of Commerce or write to

Oil Industry Association of California

Headquarters: PALACE HOTEL, SAN FRANCISCO LOS ANGELES OFFICE: Chamber of Mines & Oil

President Taft's withdrawal order was made public found themselves occupying and endeavoring to develop claims in dispute, and with no title sufficient as a basis for credit; and however poor, they were compelled to prosecute development work or forfeit their claims. Even though they proceeded with all possible diligence they might even then be denied patents.

Shortly after the withdrawal order, congress, in response to the President's request expressly authorized the president to make temporary withdrawals. His power to make the previous order of September 27, 1909, was neither recognized nor denied by congress, but left to the courts. But in any event, congress provided that no withdrawal order should affect any one who might be at work at its date, and who continued such work to discovery. This left the locators who had prepared for work prior to September 27, 1909, in a plight. They had to either proceed with their work in spite of the doubtful withdrawal of September 27, 1909, or forfeit all that had been done.

Those who were at work at the date of the Pickett Act now continued, as required by that Act, in the diligent prosecution of their work, so that a second withdrawal made by authority of Congress (as was done on July 2 1910- would not forfeit their rights. The fact that congress had refused to ratify the first withdrawal on September 27, 1909, led to the confident belief that the courts would not sustain it. Nearly all attorneys for operators advised that the withdrawal order was invalid; several Federal Judges so decided; President Taft himself, in his message to Congress and elsewhere, expressed his doubts as to its validity; the Assistant Attorney-General of the United States rendered an opinion pronouncing it void; no attempt was made by the government for over five years to interfere with operators, who proceeded in the belief that the order would not be enforced, and who openly and with the full knowledge of the Department of the Interior spent millions and tens of millions of dollars in developing the lands. Finally, on February 23, 1915, the United States Supreme Court, by a divided court of five to three, confirmed the withdrawal order of September 27, 1909, and held that since congress had not, in the Pickett Act, expressly disavowed the order, it should be considered valid.

This decision of the Supreme Court may permit the government in many instances, after expensive litigation, to obtain title by forfeiture to property now held by the innocent prospector and developer, who located the land under an insufficient law which did not give him the rights that were necessary and who under the best legal advice has spent millions of dollars and made a wonderfully productive section of barren desert land.

The government, by actions and receiverships, is apparently proceeding with this purpose in view to file suits as rapidly as they can be prepared.

There can be no question of fraud concerning the purpose of prospectors who entered the desert, located claims, erected derricks, and thus announced to the world that they were hazarding large sums of money that oil existed beneath the barren desert.

Furthermore, it is well known that the Department of the Interior, through its investigators and its special agents, to whom operators freely furnished all requested information, was constantly advised, from the time of the first withdrawal, of all subsequent operations on the unpatented oil lands in California.

One of the principal objects of the Taft withdrawal was asserted to be the conservation of oil supposed to exist in certain localities. The oil men will prove that

on the lands in question it is a physical impossibility to conserve the oil, as alternate sections and in instances, other sections are patented, and the land which these prospectors located is surrounded by patented land. Oil being a fluid, it will be drawn from beneath the adjacent land which the government is trying to conserve by those who have bona fide legal title to the surrounding territory.

But more important yet is the fact that it is dangerous to shut down producing properties. The relief the oil men want relates to developed properties and unless these are to be ruined or irretrievably injured their operation must continue. The oil from these cannot therefore be conserved. This is well illustrated in those cases in which the government has caused the appointment of receivers.

After the Taft withdrawal, the naval authorities suggested that the oil might be reserved for naval use. The oil men of this state are anxious to and will assist the navy department in conserving oil for the use of the navy, but our oil men are also prepared to prove that the land in question, which has been developed, even if the oil could be conserved, does not contain the character of oil that can be used for the navy, on account of its high gravity, and value for refining purposes.

If the government takes technical advantage of the laws now existing and does not afford relief to the operators, it will be forced to become active in the production and refining of oil; and in order to do this will take from the prospector and thousands of stockholders the property which they have developed solely as a result of their own efforts and expenditures.

But, above all, the government has in naval petroleum reserve No. 1 a reserve of over thirty thousand acres of petroleum land, very little of which is now in operation, and which, as a practical proposition, can be maintained as a naval fuel reserve with injury to no one. There is in this naval reserve more land available for government use than is involved in the proposed litigation.

At each session of Congress since the Taft withdrawal order was issued, many California operators have, at great expense, gone personally and also sent individual representatives to Washington to plead with Congress for relief. The lack of concerted action on the part of producers, and the lack of unity of opinion as to the legislation required, has confused Congress, and as a result the oil producers have been unable to obtain any legislation that would give them relief and make their investments and industry secure.

The business interests of the state, realizing the absolute necessity for some relief from Congress, organized the Oil Industry Association, in order that this association might present the true condition of affairs to Congress in an intelligent and effective manner.

The association is non-political and non-profit making, and has for one of its objects the obtaining of such legislation as will make secure the investment and efforts of the citizens of this state who are responsible for the development of the oil fields, and who have thereby added to our wealth and standing in the community of states.

Members of the association know that if Congress is fully advised as to the chaotic condition existing in California and is assured of the honesty of the case represented by the association, it will be anxious to enact such legislation as is necessary in justice to the Pacific Coast and its business interests.

Inasmuch as the legislation affects all of the industries of the Pacific Coast, it will undoubtedly have in

its membership over 200,000 citizens, who will send their representatives to Washington immediately; and we are confident that our case is so honest and just, and the legislation and situation now existing is so unjust, that our efforts will be rewarded by the representatives in Congress.

If we remain dormant, do not act immediately and secure the relief necessary, \$300,000,000 worth of property in this state will be involved in endless litigation, and the welfare of the entire state seriously affected and may be irretrievably damaged.

Present laws are causing economic waste and they must be changed.

A wise policy would give to the oil men their developed lands just as before September 27, 1909, the government would have promptly patented to an oil miner the quarter section of land on which he made his discovery. As a temporary withdrawal the order of September 27, 1909, has more than served its purpose. It was never contemplated that it should cause the distress and ruin which is following in its wake. As a conservation measure it can accomplish no more. If strictly enforced it can only be a weapon of destruction and damage. It is being made the basis of a vast and ruinous and costly litigation. The men who created the valuable oil fields of the San Joaquin valley are entitled to be relieved of such a useless burden and to just treatment. Each company or operator should receive patent for every quarter section on which discovery has been made or on which work has been continuously and diligently performed since the date when Congress first prescribed continuous work as a necessary condition to patent.

Oil Advanced Two Dollars.

Report from Pittsburg states that \$2 oil, the goal of hundreds of producers throughout the country, was reached on the morning of November 18th, when the South Penn. Oil Company announced the second advance for the week as follows: Pennsylvania Crude, \$2.00; Merced, Black, New Castle, Corning, \$1.50; Cabell, \$1.55; Summerset, \$1.42; Ragland, 70c.

While the prices in California have not reached any such figure, the Standard Oil Co. has announced an advance paid for crude at the wells and the new schedule was effective on the first of December. Under the new schedule crude oil ranging from 14 to 20 9-10 degrees gravity is 2 1-2 cents per barrel higher in the Kern River, Midway-Sunset, McKittrick, Lost Hills-Bellridge and Coalinga fields, while the lighter grades produced in the same district are advanced 5c a barrel. In the Whittier-Fullerton fields, oil ranging from 18 to 30 9-10 degrees gravity is 5c per barrel higher and lighter is advanced 2 1-2 cents.

Driller With Rig Wanted.

The Derrick has an inquiry from reliable parties for a driller with a rig, who will undertake a "wild catting" proposition in California. If any one is in position to take this, a letter to The Derrick will place him in touch with the parties who desire his services.

Reports come from China that conditions in the China oil fields have become very much more peaceful since the demand of Japan was met by China.

Parkfield Property.

A 165-acre tract of prospective oil land in the Parkfield District, Monterey County, is offered for sale by Frank La Vine, 230 W. First St., Los Angeles, Calif. The property is close to drilling operations, and is a first class prospect. The big money comes in the discovery. Particulars furnished on request.

Oil Lands for Sale or Lease

Tide-water, Santa Barbara County

A. S. COOPER, Santa Barbara, Calif.

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The Lesson of Gasoline.

Gasoline prices are steadily rising and this is one of the answers to the question of why it is that crude oil has advanced. On top of that comes the question whether crude oil would have advanced had not gasoline been more in demand. The upward trend in the gasoline markets began in early June whereas the first advance in crude came five weeks later.

The real answer does not lie in the astonishing expansion of foreign gasoline consumption since the outbreak of the war, although that has, to some extent, been a contributing factor, but rather in the steady growth of domestic consumption caused by the astonishing development of the use of motor-driven vehicles both passenger cars and commercial.

According to the official figures, recently issued by the National Automobile Chamber of Commerce, the number of new cars, passenger and commercial, manufactured and sold, during the fiscal year, ending June 30, 1915, reached the unprecedented total of 706,527 cars. According to these same official figures, the number of cars in this country in 1915, was 2,075,570. These figures reveal an expansion of practically 400 per cent over a six year period as in 1910 there were 335,140 cars in use.

It is fortunate for the automobile industry that our production of crude oil, refinery capacity and improved methods in increasing the yield of gasoline from the raw material has kept pace with the rapidly expanding use of motor-driven vehicles, otherwise one of our greatest industrial developments would have been retarded by the excessive cost of motive power. It must be remembered, however, that this fortunate condition does not promise to hold out indefinitely, inasmuch as it is apparent to the well informed that our output of crude oil is likely to remain stationary around the 300,000,000 barrel mark while our consumption of gasoline threatens to outgrow quickly our refinery capacity.

When we remember that we require one billion gallons for automobile use in our own country and our export trade has risen in the last twelve months to 250,000,000 gallons, and as much again is consumed annually for industrial uses, it means that it is not difficult to foresee in the very near future a two billion gallon gasoline consumption and to the practical oil man, this means that every refinery in the country will have to work capacity to supply it.

London Syndicate Leases Oil Lands.

Report comes from Santa Barbara that a big English syndicate has representatives in the field in that vicinity looking into the future as regards the oil situation in this country. They are securing leases, running over a period of twenty years on an aggregate, of 320 acres in the Santa Maria oil fields. The Los Flores Land and Oil Co. and the Union Oil Co. of California each leased large acreage to the Santa Maria Oil Fields of California, Ltd. This company is a London corporation, capitalized for \$2,000,000. It is also reported that the syndicate has taken on the lease of 2000 acres of the Shaw ranch.

The United States Navy Department is constructing a fuel oil tank with a capacity of 2,000,000 gallons on the shore at Portsmouth, near Newport, R. I. This is to be a source of supply for battleships and other naval vessels.

Standard Takes Kern Property.

A report comes from Bakersfield that the Standard Oil Company has taken possession of the Kern County property of the Monte Cristo Oil Co., having already taken possession of the Monte Cristo property at Fullerton. It is said that the price paid is \$375,000. On the properties involved, there are about 115 wells with a monthly production of 40,000 barrels of oil.

Oil Refineries Prosper.

Reports from the various refineries throughout the country, show that record breaking earnings have been had for October and November, the entire production of all of the refineries is sold into 1916. It is this condition that has brought about the active bidding for crude oil supplies and a consequent stimulation of producing activity.

The segregated companies of Standard Oil group have been forehanded in this regard and as reported Oil Company of New Jersey, the Standard Oil Company of Kansas, the Standard Oil in Indiana, the Standard Oil of New York, Atlantic Refining, Solar Refining and Standard Oil Co. of Ohio have insured ample supplies for their 1916 refining deals.

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No. 5

Importance of California's Oil Industry

One of the impossibilities in connection with a complete resume of the importance of the petroleum industry in California is an absolutely accurate series of figures that will cover every phase and all of the ramifications of the industry. It is an easy matter, for instance, to give the number of operating wells, but were one to attempt to enumerate the thousands of wells that have been sunk all over the state which have produced nothing but a debt for those who invested their money, it would be a task so stupendous that the bravest statistician would shrink from its consideration.

Statistics regarding the petroleum situation cannot be complete so long as we have to depend upon the returns received from companies and individuals. Some will give immediate and satisfactory response while others will either neglect the inquiry entirely or will give incomplete returns. In the following summary of conditions it should be remembered that the figures must, of necessity, be approximate. This applies to every phase of the industry for constant changes are taking place which bring variations in the figures.

In California there are 72,535 acres of proved oil land. This does not mean that all of this land is under operation, but that wells have proved that oil underlies this amount of territory. It is a well recognized geological fact that many more thousand acres of land in the state will be developed, ultimately, and show that the oil area extends to localities not now con-

sidered as being oil land at all. On the land that has been proved there are 6,183 producing wells. It is not worth while to give consideration to the wells that are not producing, for this article has to deal with the apparent physical magnitude of the industry. The daily average production of the 6,183 wells noted during the year 1914, which are the latest compiled figures obtainable, was 281,841 bbls., while the daily averages shipment was 258,825, for the same period. An analysis of these figures indicates that there was a daily average surplus of 23,000 barrels. This surplus was stored and was what is known as "above ground oil," amounting, practically, at the end of 1914 to a surplus of 8,400,000 barrels from that year's production alone.

Invested in the industry in cash and properties is a grand total of practically \$215,000,000, and from the wells comes oil valued at about \$50,000,000 a year.



Desert Land Reclaimed by Oil Discovery

or a total in excess of all of the other mineral productions of the state combined. As a result of this vast industry there are dividends paid annually amounting to a grand total of \$15,548,606.

The average equipment cost of the wells in operation is \$12,000, while the operating cost is estimated at \$4 a day, this including repairs. It will be seen that the value of the equipment of the producing wells alone amounts to a grand total of \$86,196,000, while it costs the owners a total of \$24,732 a day to operate and keep them in repairs, or a grand total of \$8,927,180 for a year's work. Practically labor's share of this total was \$8,500,000 a year.

In addition to the equipment and operating cost of these wells is the first cost of drilling which will average about \$25,000 or a total of \$178,500,000, practically all which also was labor's share in the industry.

To market the production it is necessary to consider three important factors: Pipe lines, transportation companies and refineries.

There are approximately 2,500 miles of pipe line in California, not considering the short supply lines at refineries. The average cost of the pipe lines, including cost of stations every twelve miles, is practically \$20,000, or a total cost for the pipe line system of the state of \$50,000,000.

It is impossible to estimate the value of tank cars and other equipment necessary for the railroad transportation of the product of California's oil wells. There are four companies which transport oil in ocean going steamers and barges, and these have a total of 50 steamers and barges, with a carrying capacity of 1,503,565 barrels. It is dangerous to make an estimate of the value of the carrying companies equipment, but certainly \$20,000,000 would not be over-estimating the matter.

To refine the crude oil and to make the numerous by-products there are sixty refineries in the state employing, probably, an average, in all departments, of 300 men, or a total of 18,000 men; at the producing wells 18,000 more are employed, while on the pipe lines 3,000 more are employed. These figures do not include the office forces of the various companies nor the selling and marketing forces. It is safe to estimate the total number of men actually employed by the producing companies and their tributary companies, at 100,000. On a basis of an average of four to the family it will be seen that the industry supports nearly half a million people out of the state's total of three and a quarter million inhabitants. This is from the actual employment side of the question. It is to be remembered that in addition to this there is an annual payment to stockholders of more than \$15,000,000.

In addition to the producing companies there are practically 5000 wells that have been abandoned, and there are possibly close to 1000 wells now being bored. All of these have their financial bearing on the industry, and were one to presume to estimate the total amount of money that has been invested in the petroleum industry in California it would be in excess of \$1,000,000,000.

California produces in commercial quantity forty seven mineral substances, and has achieved a world-wide reputation because of its gold output. Were some president of the United States, in his wisdom, to presume to take as drastic action regarding the gold mines of California as was done regarding the

petroleum lands, there would be raised such a protest as would reach from one end of the nation to the other, yet the gold industry is not one-half as important as the petroleum industry.

The total mineral production of California for the year 1914, which is the last authentic statistics at hand, was valued at \$93,436,553; of this amount gold was \$20,775,000; silver, \$814,230; copper, \$4,055,375. Petroleum that was produced amounted in value for the same year to \$47,487,609.

When it is remembered that the production and value of petroleum is but a small part of the actual value of the industry so far as the welfare of the state is concerned, it will be seen that it is many times the value of the other mineral wealth in all its ramifications.

There is another phase to the petroleum industry that makes for benefit to the commonwealth as a whole, and that is the development and recovery of arid lands. Thousands of acres of land that ordinarily would be considered desert have been converted into rich agricultural districts because of the development of the oil fields. It is of record that since the withdrawal order of President Taft went into effect and the suits have been filed by the government, many of the districts have lost materially in population and business, and if the land is not developed vast tracts will revert to desert.

United States Leads the World.

According to statistics formulated by the Department of the Interior, the petroleum industry is growing enormously and with this world growth the United States keeps pace.

The world's production of petroleum in 1914 is estimated at 400,500,000 barrels, of which the United States furnished 66 per cent.

The growth of the petroleum industry in the United States has been accompanied by the invention of new processes and devices and the improvement of old ones, making the industry notable for the introduction and development of distinctly American features. Some of these features are the construction of pipe lines hundreds of miles long, connecting the wells with refineries and shipping ports; the invention of processes for refining oils of unusual composition; the perfecting of processes by which the percentage of gasoline obtainable from a crude oil is greatly increased; the production of gasoline from natural gas; and the manufacture of toluol and benzol from petroleum.

The quantity of natural gas commercially utilized in the United States in 1914 is estimated to have amounted to 592,000,000,000 cubic feet, valued at more than \$94,000,000.

Epoch-making features in the natural gas industry are the development of the internal-combustion engine for the economic consumption of natural gas, whereby a saving of 90 per cent of fuel may be effected as compared with burning natural gas under a steam boiler with only 10 per cent efficiency. Other features are the development of the mud-laden process for stopping the flow of gas and conserving the supply underground until needed and the development of the process for extracting gasoline from casing-head gas. In the past there has been enormous waste and the total waste is still discreditable to the nation.



Where the Pipe Line Ends

Petroleum's Influence on California

When we are told that the oil industry of California represents an invested capital of \$225,000,000, we grasp the idea that an immense amount of money is involved, but that idea gives us little insight into the true condition, so far as the influence of the industry on the business of California is concerned.

Were one to begin to designate the various ramifications of the industry, and the other industries that have come into being through the exploitation of the petroleum deposits of the state, he would find an almost interminable task.

Like electricity petroleum has gradually worked its way into the business of the country, almost insidiously, one might say until now it is an essential part of so many other industries that were any thing to happen that would paralyze the petroleum production it would mean the widest and most destructive collapse of hundreds of kindred and allied industries in California, as well as in the entire country, and would bring about a worse financial panic than that which would or could come from any other source.

For many years the complaint of those who had at interest the promotion of California's industrial condition was that while we were overburdened with raw products we had no fuel with which to run our factories, with the resultant conclusion that California could never become a manufacturing state until we could utilize the vast water power possibilities of the streams of the Sierras. In a small way this water power was utilized but the expense was so great that manufacturing languished until there came a day when crude petroleum was recognized as a fuel.

Not only manufacturing felt the impulse of the new element in the industries of the state but transportation lines grasped the possibilities and it was but a short time until all the locomotives of the state were using fuel oil and discarding coal. Then came the wider influence when steamships began to convert their coal burning engines into fuel oil burners and then manufacturers, in a small way at first began to discover the possibilities of petroleum as an adjunct to

this industry, with the result that at the present time an enormous quantity of crude petroleum is being converted into salable articles.

For years the smelting operations of the coast have been hampered owing to the difficulty in obtaining proper fuel. Millions of tons of iron and copper ore have been permitted to lie as waste material because of the difficulty and expense attaching to the smelting operations necessary to bring the ore to a state where it could be utilized in the industries.

Attention of many engineers has been called to the use of petroleum as a smelting fuel for both iron and copper with no success until within the past six months when through a simple mechanical process the problem was solved and successful runs of both iron and copper were made in a commercial smelter that had for its fuel the crude petroleum that came from California's wells.

Passing from the crude oil and its use as fuel the next industry to be considered must, of necessity, be the plants which are built for the changing of the crude to the refined product, or the refineries. Of these California has such a number that it becomes a vital industry of itself and is of vast commercial value to the progress of the state, employing thousands of men and millions of dollars capital.

To carry the crude oil from the wells to the refineries and to shipping points where it can be assembled for distribution all over the world, the rail transportation has become a thing of the past and hundreds of miles of pipe lines are now sending millions of barrels daily to tide water for distribution by ships and to immense refining plants where the crude product is separated into its vital constituents, which are also sent to all parts of the world over transportation lines especially constructed for that purpose. These pipe lines, too, require immense capital of money and labor, and return to their stockholders many millions of dividends.

In addition to the great number of tank cars necessary for the inland transportation of petroleum and its products there has grown up an immense fleet of

tank steamers and barges which carry the crude and refined oil, as well as other steamers which are loaded with the refined product in cases and which go to every port in the world, bringing back to California vast sums of foreign gold in payment from this one product.

Considering the one product of gasoline alone the mind can scarcely grasp the importance of this fluid to the industries of California, as well as to the entire country, and one might say, to the entire world. Without gasoline the present enormous increase in the use of the automobile would hardly be possible, and in fact, already there has been sounded a note of danger as to over-demand owing to the wonderful increase in motor vehicles which depend on gasoline for their power.

In the European war it has been said that if either of the belligerents had it in its power to control the gasoline supply of the world it would mean a complete victory over all countries. Yet it must be remembered that when the war is over this demand for gasoline will have reached such an enormous point that it will be impossible for present refineries and wells to have sufficient supply unless there come greater output.

Automobiles are being manufactured by the hundreds of thousands and so great is the demand for gasoline that already manufacturers are casting about for means of using denatured alcohol, which is to be made from the vast quantities of waste fruit and vegetables on the farms of the nation.

As subsidiary industries that have come into being

owing to the exploitation of California's oil fields there have grown up a number of manufacturing plants which devote their energies entirely to the making of machinery for use in the oil fields, and others which make nothing but tools to be used at the wells.

As was stated in the beginning of this article it would be almost impossible to enumerate the various ramifications of the industry and its influence on the other industrial elements of the State, but it can safely be said that were the petroleum industry of California to suddenly shut down it would mean the throwing out of employment of fully half a million people and the rendering idle of possibly \$500,000,000.

California's oil industry today is the result of the energy and perseverance of those hardy pioneers in the field who sunk their money, and who wasted years of life to the developing of the vast deposits which underlie the state. Those men were followed by others who also went into business with single hearted ideas of bringing out the latent forces of nature stored up in the vast storehouses underground. They followed the laws made for the development of such products, and worked in good faith.

It is these men and those who followed in their footsteps that the law-makers at Washington are now asked to protect. Not only is it a protection of the pioneers and their descendants but of all those thousands who have invested money, their brains and their brawn into the hundreds of allied and kindred industries which mean so much for the development of California.

California's 1915 Development.

Petroleum statistics for California during the year 1915 clearly illustrate some of the vital natural laws governing the production of oil. Gradual decline in productiveness of an oil well is one of the most important, though possibly not generally recognized, rules, and it makes necessary an ever-increasing number of wells if the total production is to be maintained. The average daily production per well has fallen, since 1914, from forty-seven barrels to thirty-nine, and consequently, in spite of the fact that more wells are now pumping than ever before, the increase being 4 per cent over last year, total production will be only about ninety million barrels as compared with one hundred and two million in 1914.

The number of new oil wells drilled in California during 1915 was about two hundred and forty, as compared with four hundred drilled during the previous year. This decrease, in conjunction with the natural decline in productiveness of wells, accounts for the ten per cent shortage in total production. Demand for oil has increased in the past few months, causing a reduction in storage. Prices of most crude oils have advanced up to or above the levels occupied before the outbreak of the European war, the stupendous gusher production of the Midway-Sunset field is probably largely over and therefore greater drilling activity may be expected during 1916.

That a big and growing manufacturing city like Richmond brings population, assures a rapid growth and a remarkable and continuous increase in real estate values has been conclusively proven during the past ten years.

Universal Oil Company.

To the Universal Oil Company is due the credit of the development of the Lost Hills Field. It was this Company that purchased from the original locators the discovery well in this district and since then they have spent approximately two million dollars bringing in water, building roads and developing the district. The oil is of high gravity and of great value as refining oil. The Universal Oil Company has recently discovered a second sand below the original discovery sand, which will undoubtedly prolong the life of the field beyond that originally anticipated.

It is learned that the Doheny plans for his big Pan-American Petroleum and Transport Company, capitalized at \$100,000,000, include the establishment of large oil stations for the supplying of ships with fuel oil along the coast at San Francisco, at the Panama Canal, Galveston, Newport News, Chesapeake Bay, New York and other ports.

Claims of the Honolulu Oil Company to more than 2,000 acres of California oil land, valued at millions of dollars, and withdrawn from entry by the executive order of 1909, have been found valid by the General Land Office of the United States. This means that every operator who was in occupancy of the lands in good faith at the time of the withdrawal order and was diligently prosecuting the work of development, is protected in his rights.



Congressmen in the Oil Fields of California

Oil and the Present Congress

The question has been asked by those inadequately informed, why oil men should feel called upon to spend their money to try to better conditions, when business appears to be growing steadily better without any effort.

In these days of strenuous business interference on the part of the government there is no interest and no industry more vitally interested in the Congress of the United States than the petroleum industry. Many matters of special importance to those interested in both oil and gas will come before congress for action, in the way of regulation and frenzied reform such as has characterized much of the adverse legislation that has been enacted regarding business during the past three years. It is a matter of vital importance to the oil men of the United States, and especially those of California, to line themselves up for a concerted move to bring about in the minds of the nation's lawmakers a realization of the conditions which are now hampering the industry. It is well to read a resume of the most important measures that will come before the congress for action, among which may be mentioned the following:

Special Oil Taxation: This is a sweeping administration measure which proposes to tax gasoline, crude oil, refined oil and the horsepower of motor cars and other internal combustion engines. While the degree of tax has not been settled definitely it is understood that the proposal will be to tax gasoline one cent a gallon for the purpose of bringing in a revenue of \$10,000,000. A tax of 50 cents per horsepower on internal combustion engines and motor cars will bring another \$15,000,000.

Oil Land Withdrawals: California oil men are par-

ticularly interested in the subject of public land withdrawals as affecting the oil and gas interests of the state, and through the Oil Industry Association there will be a strong effort made to have the interests of the hundreds of men who have operated in good faith and who now are in danger of losing their land, their effort and even the machinery that has been erected to carry on their business. The rest of this trouble lies in the fact that when the mining laws of the nation were framed no consideration was given to the petroleum development and as a result all entries of oil lands went under the regular mining laws. While the original requirements, not at all suitable for the development of oil lands, have been modified by executive rulings and legislation further legislation is needed in justice to both the government and the operators who have acted in good faith.

Gas Lines as Common Carriers:—There will be a vigorous renewal of the fight by Senator Reed of Missouri to have the interstate commerce act so amended as to make gas lines common carriers. It will be necessary for all those interested in such lines to see that necessary arguments against such action be ready for presentation.

Tank Ships and Merchant Marine:—It is essential that the United States should have a merchant marine adequate for the business of the country. Oil men are interested in this through the necessity for tank ships to carry oil to foreign countries. If the revived merchant marine bill does not contemplate relief in this direction the energies of the oil men should be bent to have such regulation as will bring a relief from present conditions of inadequate shipping facilities for the small operator and shipper.

Oil Investigation:—There will be special reports on oil transportation and pipe lines by the Federal Trade Commission and the Interstate Commerce Commission. In regard to this the Federal Trade Commission made a preliminary report recently, in which it had the following to say:

"The information to be published in the forthcoming report is but a first, although a very important, step in the investigation. In connection with the securing of information on the subjects treated in the forthcoming report on the cost of pipe line transportation of crude petroleum considerable information has already been gathered on conditions in the production, refining and marketing of petroleum and its products. It is the purpose of the federal trade commission to issue reports dealing with one or more features of the industry as rapidly as information on these subjects can be collected and prepared.

"It is quite apparent from the investigation already conducted under the senate resolutions above referred to that there is a wide difference between conditions existing in the several parts of the United States, and that the petroleum industry is at present undergoing rapid changes and certain branches of it, due to the European war, have been in an abnormal state. New processes for refining oil have recently been installed, and this is leading to marked changes in the refinery situation.

"Since it is a matter of common knowledge that the federal trade commission is conducting an investi-

gation into the oil industry by direction of congress, it is but natural that many complaints concerning conditions in one or another branch of the industry should come to it. It has received complaints from persons engaged in producing oil from wells, from companies engaged in buying and transporting crude oil, from oil refiners, from oil jobbers, from retailers and from consumers. Some of the complaints allege unfair practices by former subsidiary companies of the Standard Oil Company, others are directed against various of the so-called independents. These complaints come from all parts of the country and are often of a conflicting nature. For example, many producers allege that unduly low prices are paid them for crude oil and that many of the pipe line rates for transportation are too high; many refiners allege that the prices they are obliged to pay for crude are too high and are subject to monopolistic control, and that the prices at which they have to sell their refined products are too low because of alleged unfair practices on the part of competitors; and many consumers complain that retail prices charged for the refined products are exorbitant and that price discrimination between localities is being practiced."

These are some of the matters of vital interest and concern to the oil men of California, and it is for the purpose of watching these and other measures that the Oil Industry Association has been organized. Every oil man in California, whether operator, manufacturer of supplies, refiner or stockholder in companies, is equally interested.

The Fiesta of the Snows.

The Winter Sports season at Truckee, near the summit of the Sierra Nevadas, has become well established as an annual event—an event which makes an irresistible appeal to people who seek novel amusement and keen out-of-door recreation. For here they may enjoy tobogganing, skiing, hockey, sleighing and skating, all amidst the snow and ice of the California highlands, in the fragrant pine forests, with the bracing mountain air to give added zest to the sport.

In altitude, topography and its winter climate, Truckee closely resembles the St. Moritz winter playground in Switzerland.

The program this season is extensive and very attractive. For one thing, there will be a toboggan slide that will develop a speed of eighty miles an hour, which ought to satisfy even the most exacting.

Skiing, too, is arranged for, that exhilarating way in which the Canadian or Norwegian gets over deep snow when he wants to exercise or go on a journey. Most of us have seen the ski in the "movies" and the amazing leap of the expert, but it will start a thrill to actually see a man soar so easily through the air without an aeroplane.

If we are not adept at skiing or skating, instructors will be there to give us lessons, and also to give exhibitions. Exercise on the skis, on the toboggan slide or on the skating ponds, in this pure cold air, will invigorate the nerves and make the blood tingle.

The program has yet another feature. This is a sleigh ride to historic Donner Lake, a six-mile round trip through the pines.

Arrangements can be made so that special parties of twenty or more procuring sleeping car accommodations will have the privilege of occupying the sleep-

ers, which will be heated and located on the track near the carnival grounds.

The Southern Pacific Company's hotel at Truckee, which has been enlarged and thoroughly renovated, will provide patrons with comfortable sleeping accommodations, while its restaurant will furnish good meals at reasonable prices.

Truckee is only a night's ride from San Francisco and the bay region. The trip is not an expensive one. The nearest local agent will tell you all about it—the cost, the time, the hotel accommodations—everything you want to know about what has grown to be an annual Winter Carnival.

Standard Declares Regular Quarterly Dividend.

At a regular meeting of the Board of Directors of the Standard Oil Company (California), held at Richmond, California, today, a quarterly dividend of \$2.50 per share was declared on the outstanding stock of the corporation, payable March 15, 1916, to stockholders of record on the books of the corporation at close of business February 9, 1916.

The Board of Directors also authorized at the same meeting, subject to the approval of the state authorities of the State of California, a stock dividend of 248,433 and 272807.983383 shares of treasury stock, representing fifty per cent of the outstanding stock of the corporation, payable on April 15, 1916, or as soon thereafter as delivery thereof can be made, to stockholders of record on the books of said corporation at the close of business March 4, 1916, at the rate of one-half a share for each share of stock held by the stockholders on said books at close of business March 4, 1916.

Petroleum Production Large

Preliminary estimates of the total yield of petroleum for 1915 indicate a slight increase over the record-breaking yield in 1914. This condition does not agree with the currently reported reason for the exceptionally high prices now prevailing for motor fuel.

As a result of the over-load put on the transporting and refining phases of the petroleum industry by the excess output of crude petroleum in 1914, the year 1915 may be characterized as a period of readjustment in which production activity was purposely retarded as far as possible. The small increase, therefore, is more significant than the simple figures suggest.

According to John D. Northrop of the United States Geological Survey, the marketed production of petroleum in the United States in 1915 approximated 267,400,000 barrels, and the total yield approximated 291,400,000 barrels, about 24,000,000 barrels of oil brought to the surface during the year being placed in field storage by the producers.

The following table shows by states the marketed production of the petroleum in 1914 and an estimate of the corresponding production in 1915, in barrels:

State	1914	1915
California	99,775,327	89,000,000
Oklahoma	73,631,724	80,000,000
Texas	20,068,184	26,000,000
Illinois	21,919,749	18,500,000
Louisiana	14,309,435	18,500,000
West Virginia	9,680,033	9,000,000
Pennsylvania	8,170,335	8,700,000
Ohio	8,536,352	7,900,000
Wyoming	3,560,375	4,200,000
Kansas	3,103,585	3,000,000
Indiana	1,335,456	1,000,000
New York	938,974	900,000
Kentucky	502,441	450,000
Colorado	222,773	200,000
Other States	7,792	50,000
	265,762,535	267,400,000

The apparent increase in the quantity of marketed production in 1915 is accounted for by the continued output of oil in large quantities from the Cushing field, Oklahoma, during the first half of the year, and from the Humble pool, Texas, during the entire year, as well as by the discovery and rapid development of new pools in Louisiana and Texas.

The stocks of crude petroleum held by pipe line companies at the end of 1915, amounted to approximately 195,000,000 barrels, including the oil retained in storage by certain oil companies that conducted a pipe line business at the beginning of the year but

which business was taken over and later conducted by separate pipe line companies. This reserve is approximately 50,000,000 barrels greater than at the end of 1914.

Prices of crude petroleum at the wells were uniformly low in all fields from January to August, when the permanent decline of the Cushing field resulted in an increased demand for oil produced in other parts of the country, with a consequent advance in the scale of prices warranted. From the low level of \$1.35 a barrel maintained from April 3rd to August 14th, "Pennsylvania grade" the market standard, advanced steadily during the last third of the year, reaching \$2 a barrel on November 18th, and \$2.15 a barrel on December 17th, and disclosed a strength which indicates a rapid return to the \$2.50 level attained before the advent of Cushing. "Kansas and Oklahoma" grade recorded an even more rapid recovery. From its low level of 40 cents a barrel maintained from February 15th to August 2nd, this grade advanced to \$1.20 a barrel in a little more than four months, passing its former high level of \$1.02 on December 13th, and attaining the price above quoted on the following day. California grades were fairly steady throughout the year, a 5-cent cut affecting heavy oils in the Valley fields on June 7th and a corresponding advance affecting the same grade of oil on October 26th, followed by the general advance of 2½ to 5 cents on all grades except Ventura County and Santa Maria, effective November 20th.

Throughout the country as a whole drilling activity was at a low ebb in all the developed fields until late in the year, when advancing market proved an incentive for a moderate amount of new work. The Cushing field, Oklahoma, and the newer pools discovered as the result of wildcat drilling during the year, sustained a marked activity which was due to the conditions of local competition rather than to any justification expressed by the oil market.

In marked contrasts to the reviews of the petroleum situation in California in the last nine years, that for 1915 records a decline in output and a year devoid of special features. As a result of the overproduction of petroleum in 1914, field activity in California was reduced to the lowest practicable minimum in 1915.

In the Midway-Sunset district the last of the big gushers (the Miocene No. 2) inherited from 1914,



"S. S. Richmond," Most Recent Addition to Tanker Fleet

ceased flowing in March and from that time to the end of 1915 no wells of corresponding size were completed.

North of McKittrick in section 35, township 27 south, range 20 east, of the Mount Diablo meridian, a new field of 35-degree Baume oil was opened by well No. 4 of the Belridge Oil Company, which was completed April 8th at a reported depth of 4,000 feet. Other wells were started on adjoining sections but the extent and value of the field remained unproved at the end of 1915.

At Coalinga, the deepening of an old well in the

white-oil district adjacent to Oil City in December was attended with such favorable results that a revival of activity in this area is assured.

The oil fields south of the Tehachapi range displayed more activity in 1915 than the San Joaquin fields. In the Coyote Hills north of Fullerton a number of flowing wells were completed and to the northeast in La Habra valley near Brea and Placentia developments were equally successful though retarded considerably in the latter district by water troubles. A small refinery began operations at Fillmore, Ventura county, in September.

Gasoline Supply Is Short

Notwithstanding the fact that the consumption of gasoline has increased enormously and still continues to climb, the supply has stood practically unchanged. This answers absolutely the query as to why the price of gasoline has advanced.

The expansion of the automobile industry of recent years, the general use of gasoline engines and tractors by farmers and the increase in number of motor boats are all important factors in causing the price to rise. The price of crude petroleum has also mounted steadily because the supply is not enough for the visible demand. The following figures, gathered by the "California Derrick" from various sources, throws considerable light on the subject:

In 1899 the quantity of gasoline used in the United States for all purposes was 5,615,000 barrels. By 1904 the amount had increased only to 5,815,000 barrels. In 1909, five years later, the amount had increased to 10,806,000 barrels. This enormous increase kept pace with the manufacture of automobiles. In 1914, another five-year period, the amount consumed was 18,000,000 barrels, or an increase in five years of 7,200,000 barrels. It is now estimated by experts that in 1916 the amount required to meet the ever-increasing demand will be 30,000,000 barrels. The bulk of this will be used by motor cars and motor tractors.

In 1912 practically 312,000 automobiles were built in the United States. For the year ending June 30, 1915, the builders turned out 710,000 motor cars, which added to those already in use made a grand total of 3,250,000 cars of all classes.

Experts say that there will be 3,000,000 motor cars in constant use in 1916. With these there will be an added number of motor boats, gas engines, gasoline lamps and similar gasoline consumers. It is estimated that these 3,000,000 motor cars will consume 20,000,000 barrels of gasoline during the year, and that the other gasoline consumers will require about half as much more, making a total demand for 30,000,000 barrels during the year, as compared with 18,000,000 in 1914 and 5,615,000 in 1899.

The total production of crude petroleum of the United States for the year 1915 was about 291,400,000 barrels. About one-third of this, notably certain classes of Texas and California oils, produce no gasoline.

A somewhat similar situation was faced two years ago, when a gasoline famine was threatened by the rapidly increased consumption. At that time the situation was met and the difficulty overcome by two important factors. The great Cushing gusher field

came in with a supply which increased the general supply of crude petroleum by 300,000 barrels a day, and at the same time Dr. Burton, of the chemical department of the Standard Oil Company invented the pressure still process which enabled refiners to largely increase the product of gasoline from a given quantity of oil.

But now Cushing field has fallen off 100,000 barrels a day and there is also a marked decrease in the output of all the oil fields. This decrease in the production of crude petroleum comes with an enormous increase in demand for gasoline, and there is no evidence of relief in any direction. Most of the refiners, even the largest, buy much of crude oil they use, and this increased demand has caused a gradual advance in the price of crude, the quotations advancing from 40 cents a barrel in August, 1914, to a present offering of \$3.15 in Pennsylvania.

The war has effectually shut off the prospects of help from either the Russian or the Roumanian fields, and we may look for an increase in price of both crude and of gasoline within the next few months. If the supply be still further curtailed by closing operation in California fields through governmental action we may look for material harm done to one of the largest growing manufacturing industries of the country.

Not only every automobile manufacturer, but every seller and every user is vitally interested in having Congress give immediate relief to California's oil industry.

Using the Earth as a Reservoir.

One of the most unique means of storing gas has been utilized by the Standard Oil Company in the Midway field, according to the December Number of the "Standard Oil Bulletin." It says:

"In the Midway field—on the Derby lease, section 15—the company is returning natural gas to the earth. The flowing oil wells on this lease produce a considerable quantity of gas along with the oil. Already there is more gas than is needed for fuel or domestic purposes in the field, so instead of permitting this gas to go to waste, it is carried by pipe lines to a hole that was drilled for oil several years ago. Under natural pressure the gas finds an outlet at about 500 feet, and apparently is being stored away in underground reservoirs at that depth."

You pay no interest when you buy "Andrade" property, at Richmond, of Herbert F. Brown, the owner.

State Mining Bureau Operations

By R. P. McLAUGHLIN

The State Mining Bureau, during the past three years, under the direction of State Mineralogist, Fletcher Hamilton, has been more active in work benefitting the oil industry than for many years previous, and the writer, having been in direct charge of this work, is glad to accept your invitation to state briefly to your readers what our work comprises. The work has been particularly pleasant for those on the Bureau staff for the reason that the directions of the State Mineralogist have been merely to gather interesting and useful facts without partisanship or bias, and the choice of the working force has been limited by nothing except the funds available and ability of the men who could be employed.

General investigation of the oil industry was carried on and the results given to the public about a year ago in the shape of a book of about 500 pages covering all branches of the industry so far as information could be obtained and made public. Accompanying this bulletin is a folio of maps showing all of the developed fields and the wells therein, together with pipe lines and all other improvements pertinent to the oil business. Geological maps of several outlying districts not previously reported upon were also shown. The publication is on sale at a price merely covering the cost of printing as is required by law, and the large sales indicate that the work has been publicly approved of.

For many years annual statistics of oil production and value have been published and in the past two years these statistics have been amplified to show the intimate financial features of the oil producing business. These statistics, along with those of all the other mineral products of the state, are distributed free of cost by the Bureau at its San Francisco and Los Angeles offices.

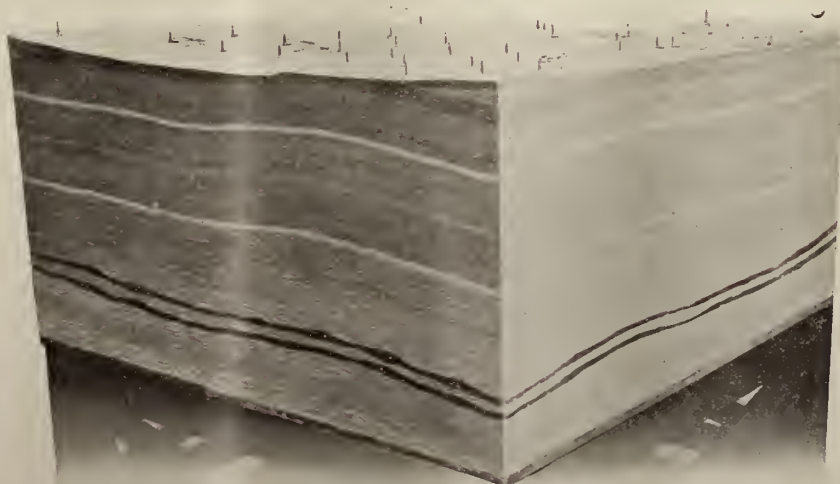
In the course of the general investigation of the oil industry it became apparent that the most crying need of the industry was some means of practical conservation of our oil fields which are particularly susceptible to damage from waters contained in sands adjacent to the oil bearing strata. This feature of the oil business had not received serious attention in any of the oil fields worked prior to the discovery of large quantities of oil in California and consequently the early work in this state had not the benefit of previous experience, and many grievous errors in operation were the consequence. The protection of oil sands from infiltrating waters is accomplished by carefully cementing enough strings of casing to enclose the waters in their original reservoirs and prevent them from following either up or down the well into the oil-bearing formations.

This description might give the impression that the problem was very simple, but when one takes into consideration the fact that the oil-bearing strata have no

uniform dip definitely shown on the ground surface, it becomes apparent that it is a difficult problem to determine where the various strings of casing should be landed and made secure in the earth by means of cement.

The difficult drilling conditions met with in California have developed, without question, some of the best drillers and operators in the world. This statement is shown to not be an exaggeration from the fact that our drillers have been called to almost every field in the world within the last decade. This efficiency in drilling methods, however, sometimes concealed the fact that other information than that acquired by overcoming mechanical difficulties was necessary for the most economical production of oil as California has for many years been training mining engineers, who have also a world-wide reputation, it was inevitable that the consideration of oil production methods should come to the attention of this class of men who have been able to demonstrate that engineering work is one of the most important features in properly developing oil properties. Most people responsible for large investments in the oil business now recognize that engineering and geological work are as necessary from the very beginning as is the work of an engineer or architect who precedes the building of a trans-continental railroad or a modern sky-scraper.

For some years there had been a law upon the statute books aiming to prevent damage to the oil fields from infiltrating water but it was a perfunctory sort of law without funds or proper method of enforcement and was therefore of but little use. The State Mining Bureau, upon the invitation of important operators, undertook the work of obtaining some sort of effective legislation. These efforts began by trying to build upon previous attempts along that line but the previous difficulties encountered in such work became immediately evident and the Bureau proceeded to draw up a law along original lines, and after many conferences with the oil men arrived at the law as it now stands on the books. As was to be



Conservation in Oil Field Operations

expected in such work, opposition of various kinds was met with but it is pleasing to be able to state that the present law has been accepted by practically all concerned as being satisfactory, particularly when it is remembered that this is pioneer work.

It has been our idea of conservation that the natural resources should be worked in such a manner as to protect them from damage but at the same time allow all the latitude possible for their development, and therefore the law provides that while the work of supervision is placed under the State Mining Bureau, the final decision upon our ruling, made in case there is protest, is by a board of arbitration chosen by the affected parties. This insures protection against official imposition and also provides for necessary technical investigation.

The law has been in effect since September of last year and engineers thoroughly familiar with practical oil operations have been stationed in four of the most important oil producing centers. It is their duty to collect all of the underground information, such as logs and production records of wells, and advise the operators as to the best method of economically producing the oil. It may yet be too early to predict the outcome of this work, but present indications all point to the fact that the people concerned realize that a man may acquire a technical education

without losing sight of the common sense principles applied to the every-day work of drilling oil wells.

All operations are required by the law to be reported to the State Mining Bureau before commencement of the work, and the Bureau regularly issues to the newspapers of the State lists of such notices, so that the public may at all times be informed of proposed work and given an opportunity to lodge a protest against anything which may be adverse to the welfare of the surrounding properties. Already the Department has been called upon to pass upon proposed methods of drilling about sixty new wells; testing the effectiveness of water shut-off in about eighty wells; examining proposals to deepen or redrill seventy wells, and pass upon the methods of abandoning about one dozen wells. All of this work has been done without necessity of recourse to the police power placed in the hands of the Bureau, and it is to be hoped that the future need not call for the use of this force, as it is our desire primarily to act in an advisory capacity.

The Department is at present working without ample funds, but at the beginning of the next fiscal year this will be provided and the real results aimed at, namely, the collection of absolutely all essential information and summing it up, can then be accomplished.

Great Activity in Oil Stocks.

There has been more activity noted in oil stocks in San Francisco, Los Angeles and New York in the past six weeks than at any time in the previous two years. Prices have been firmer and with an upward tendency in all exchanges. The most notable rises have been in Associated Oil and Standard Oil of California. The latter made an advance of 46 points and is now hovering around \$400.

Though paying no dividends, Mexican Petroleum has advanced to par and bids fair to go even higher. It is believed that there is to be a strong improvement in the properties of this company and that will mean profit for the stockholders.

Associated Oil advanced from 47 to 63, and looks as if it, too, were going higher. Amalgamated went to 83. Associated and Amalgamated showed the greatest activity of any of the stocks and there is still lively trading in them.

Union Oil is listed only on the Los Angeles Exchange. This stock showed considerable activity and reached the 70 mark.

There was an unexpected and unexplained movement in Palmer Oil common, the trading in which was insignificant. It sold up, however, to 7 cents, which was an increase of 133 1-3 per cent.

Among the smaller securities, Olinda Land went to 30 cents, and Columbia to 85. Other of the smaller and usually unnoticed stocks showed some activity and there seems to be presaged a boom in all stocks, especially those of low price. The stocks that are most in demand, however, are the substantial investment stocks, such as Union Oil, Rice Ranch, Associated, Amalgamated.

One of the most promising investments in the whole petroleum situation just now seems to be General Petroleum bonds. These are selling around \$45, and there is no question that within the next two years they will be held at from \$90 to par.

Three New Steamers Ordered.

Three more big steamers to be connected with the petroleum industry have been ordered from the Union Iron Works, to cost approximately \$3,000,000. This means that the big iron works has now under way ships costing a total of \$14,000,000.

Two of the new ships are tankers ordered by the Atlantic Gulf Refining Company, a subsidiary of the Standard Oil. The ships will be 435 feet long and 60 feet wide, each costing \$900,000. The contract calls for their completion in sixteen months.

The third steamer is for Eckstrom & Co., of London, and it is to be a tanker, practically a duplicate of the above mentioned vessels.

To the war in Europe is attributed the present increase in the business of the Union Iron Works, for the shipyards of England and Germany cannot meet the demands for this sort of business.

The Associated Oil Company is contemplating the expenditure of a million and a half dollars in the San Joaquin Valley during the early part of 1916 for the purpose of enlarging the output of the pipeline from Bakersfield to Port Costa.

Governor Johnson, of California, has issued a plea for the protection of the Oil Industry of the state which he has sent to Washington for the purpose of influencing Congress.

What the Oil Industry Association Does

By ROY N. BISHOP
President, Oil Industry Association

The work of the Oil Industry Association? It has been an honest endeavor to realize the promise it made to the oil producers and oil consumers of California in the announcement of its purposes made by its membership committee in November last. That announcement was:

"To protect, safeguard and advance the interests of all of the members of this Association with reference to the oil industry in the State of California.

"To secure Federal legislation protecting the rights of those engaged in the production of oil and gas and in the effort to produce oil and gas, upon the public domain of the State of California.

"To conduct a bureau of information and publicity to the end that the public and the citi-

Through the work of the Association, the splendidly able activities of our Senators and all the members of Congress from this state have been enlisted on behalf of the oil industry, the industries dependent upon it, and the consuming public.

For the first time in the turbulent history of the oil industry in California, officialdom's view of the oil industry and the oil men have been clarified and focused. Congress and the administration have come to regard the oil industry of California as a harmonious unit. Through the Oil Industry Association, the oil men themselves have been given and have seized upon the opportunity, for the first time, genuinely and cordially, to co-operate for a single purpose. They have worked together and are working together through this association for the common good.

And last but by no means least, the efforts of this



Scene in Oil Field

zens of our state and of our country may be informed of the nature and extent of the oil and gas industry in this state, and the conditions and methods under which and by which this industry is being conducted, in the effort to obtain a thorough recognition of the rights of all concerned and a mutual co-operation in these industries."

The measure of the redemption of that promise is to be found in the affirmative accomplishments of the Association, at home and throughout the United States.

"To protect, safeguard and advance the interests of all the members of this Association" involved many activities all closely co-related. The protection desired, involved legislation by Congress. Legislation by Congress is dependent in an extraordinary degree upon the attitude of the administration as expressed by the Secretary of the Interior. All public officials are more or less influenced in their honest opinions by their estimates of the public temper. Through representative members of the Association and able counsel, official Washington has been and is being enlightened as to the true situation of the oil producer and the oil consumer in California.

Association have been to change and, indeed, to create a new public attitude toward the oil business and the oil men of California and throughout the country. By frank avowal and a full disclosure of the purposes of this Association and its membership, the sympathetic co-operation of the California public has been secured.

When the Association began its work, the attitude of the public was essentially one of hostility; that hostility, of course, born of a misunderstanding and the persistently fostered belief that the oil industry was a highly developed agency for preying upon the public purse.

The press of California, or a very considerable proportion of it, was either actively or passively antagonistic. Today, more than 200 newspapers and magazines in California are energetically and actively advocating the cause of the Oil Industry Association. There is not one of the principal daily newspapers of California that has failed either editorially to endorse the aims and work of the Association, or to give liberally of its news columns to favorable reports of the Association's work and purposes.

Public sentiment in California is today with the oil men because the public has been given an oppor-

tunity to find out that the oil men are not bandits but earnest business men whose success is inseparably bound up with the public's interest and the development of the Pacific Coast.

What influence a unanimous public sentiment in California will have upon the administration and

Congress can be gauged only by the ultimate results of this Association's work. However that may be, this Association and the oil men, not alone of California but of the whole country are to be congratulated upon the establishment of a genuine plane of understanding upon which the oil men and the public are now cordially co-operating.

Statement of Oil Producers' Position

By LOUIS TITUS
Vice-President, Oil Industry Association

The attorney-general of the United States, in his statement on the position of the government with reference to the oil cases, takes the position that the people now in possession of the oil lands are trespassers, there without any right, and that it is the duty of the government to oust them from this possession.

The attorney-general is evidently illy informed, for the fact is that the oil operators are now in possession of said property at the direct invitation of the United States government. In 1897 Congress passed a law inviting the public to explore the public domain for the purpose of finding oil. In response to this public invitation the present operators did begin the exploration of the public domain, and after many years and the expenditure of many millions of dollars, oil was found in different places in the State of California. Patents were issued by the government for land where oil had been discovered as a matter of course, and these explorations and operations upon the government land, under the law, were in full progress when on September 27, 1909, without any warning, President Taft issued an order withdrawing these oil lands from entry. In this withdrawal there were some three millions acres of oil land included; of these three million acres less than thirty-five thousand are in controversy with the government, as this is the amount that was actually occupied and on which operations were in progress on the date of the withdrawal. The oil operator concedes at once that the government is entitled to all land upon which, under the law, there was no operation, no occupancy and no location at the date of withdrawal.

It was never intended by the withdrawal to interfere with the rights of any claimant to the oil lands at that date, and this is shown by the fact that in the order of withdrawal itself occurs the following provision:

"All locations or claims existing and valid on this date may proceed to entry in the usual manner after filing, investigation and examination."

Here was a direct statement by the President of the United States in the very order of withdrawal that no rights as they then existed should be interfered with.

Following this withdrawal, on the 25th day of June, 1910, Congress passed a bill known as the "Pickett Bill," authorizing the President to make withdrawals of lands, but this law also provided that no right then existing should be interfered with. This law contains the following provision:

"Providing that the rights of any person who, at the date of order of withdrawal heretofore or here-

after made, is a bona fide occupant or claimant of oil or gas bearing lands, and who, at such date is in diligent prosecution of work leading to the discovery of oil or gas, shall not be affected or impaired by such order so long as such occupant or claimant shall continue in diligent prosecution of said work."

This was the first time the oil operators were notified by the government in any manner whatever that they must be diligent in the prosecution of their work. It must be noted that the law under which the oil men were operating prior to this time contained no such provision, and that under the law of 1897 they were allowed to take up oil land under the provisions of the Placer Mining Law. This allowed them until the end of the following year after the location was made in which to do \$100.00 worth of assessment work.

In 1903 Congress passed another law providing that the annual assessment labor upon one oil claim might be done for the benefit of a group of five claims, providing the labor tended to determine the oil-bearing character of the contiguous claims, so it is clearly to be seen that up to the time of the Pickett Bill there was nothing whatever in the law to indicate to the operator that he must work diligently upon each individual claim; but when the Pickett Bill was passed the operator for the first time had notice that the United States government would require him to work diligently upon each one of his claims. Thereupon the operators of California, almost without exception, began to get busy, and, in compliance with the Pickett Bill, did begin operations and did develop their claims at the expense of many millions of dollars; and this they did with the greatest diligence and only upon lands on which claims had been initiated long prior to the date of withdrawal.

It is now claimed by the government that if there was any lack of diligence at the date of the withdrawal, in September, 1909, or nine months prior to the Pickett Bill, (when the oil operator for the first time had notice that he must use such diligence) that this lack of diligence nine months before any notice that such diligence was required, now works a forfeiture of his claim.

The oil operator claims that this is not the law, but that if it is the law it is so harsh, inequitable and unjust that no government should attempt to enforce it. The oil operator objects to being put in the class of wrongdoers by the Attorney-General. On the contrary, he has been a developer of the public domain and has added greatly to the wealth of the nation thereby. The great manufacturing industry of California is dependent upon the very fact that the oil operator took advantage of the invitation of Congress

to enter upon the public domain and thus establish this large industry for the people of the state. That our claims are just and equitable has been recognized by every one to whom we have had opportunity to present our case. The entire matter was threshed out before a committee of each House of Congress at the last session, and by a unanimous vote of both Houses (which is almost unprecedented) they decided that the California oil operators were entitled to relief, and bills providing for relief were unanimously passed in each House; unfortunately they were passed toward the end of the session, and owing to a rush adjournment neither bill became a law.

These bills were passed by Congress upon the special recommendation of Franklin K. Lane, Secretary of the Interior, who understands the matter thoroughly and who has repeatedly said in print that our claims are just and we are entitled to the relief we ask.

The oil operator is not a trespasser; he is on these lands at the direct invitation, and under the laws, of the United States; and he is developing them at the express invitation and under the laws of the United States, and it is not believed that a technical and unjust interpretation of these laws should deprive the operator and the public of the fruits of his hard struggle.

No Money for Oil Men

J. W. Barneberg, president of the Commercial Bank of San Luis Obispo, declared oil credits, in his opinion, had been shattered as a result of the Federal government's attempt to oust the producers from the unpatented lands embraced in the Taft withdrawal order. Barneberg laid emphasis on his statement that he did not think there was any oil company dependent upon its unpatented land holdings that could get a cent of credit from an interior bank.

"Prior to the government's activity in prosecuting suits under the withdrawal order, any oil man of proven ability had no trouble in getting credits from banks," says Barneberg. "Unpatented oil holdings were considered all right; but now, with the government trying to dispossess the oil men who have proceeded in good faith with the development of the public domain, conditions are changed and only in exceptional cases and when backed by personal securities can the same oil men negotiate loans.

"The result is that all the development work is

stopped and fully one-half the men in the field have been thrown out of employment. The feeling of insecurity has almost created a panic among the oil men. The interior banks naturally have had occasion to investigate the status of the producers operating on unpatented land embraced in the Taft withdrawal order. They feel that the oil interests are entitled to remedial legislation from Congress to protect their honest equities, but the situation is such that the banks do not feel justified in advancing loans until matters are adjusted.

"If the government persists in its suits and succeeds in dispossessing the producers from the unpatented lands, I look to see the price of crude oil at the wells go to at least a dollar a barrel, as against 40 and 45 cents now. Such an advance would accordingly be felt by the manufacturing interests, and many plants would undoubtedly be forced to discontinue, while others would have to convert their plants so as to burn coal."

Trying to Protect Investors

In order that the State Corporation Department may be assured that unpatented mining or oil locations held by any corporation, for which a permit to sell stock has been issued, may not be lost to the company and its investors through failure to do the necessary annual assessment work a letter has been addressed to all such companies by Commissioner of Corporations H. L. Carnahan calling for a report not later than December 15. The companies are asked to furnish a statement showing what labor has been performed or improvements made this year upon each of their unpatented claims located prior to January 1, 1915, and all other facts showing that full compliance has been made with the provisions of the mining law relating to annual labor.

Cases have been called to the attention of the department where mining companies have lost their possessory titles to unpatented claims through failure to do annual assessment work without the knowledge of

their stockholders. The department will keep a record of all such work affecting the rights of all companies under its jurisdiction.

The attention of all mining companies has also been called to Section 588 of the Civil Code, which has been in force for more than ten years, requiring them to keep a complete set of books showing all receipts and expenditures, which must be open to the inspection of any stockholder at all times during business hours.

Under the same section, companies are also required to have made an itemized balance sheet each month to be posted in the office of the company. It is requested that a copy of such balance sheet and of the superintendent's monthly report of development work and bullion proceeds be filed with the department. These reports will keep the department in touch with the condition of the various companies permitted to sell shares and the purposes for which the money so raised is being expended, and with what results.

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

A Word to the Press.

The "Derrick" respectfully calls the attention of the press of the United States to a condition that is intolerable in California. Congress has it in its power to do justice to men who have redeemed thousands of acres of arid land with honest endeavor; who have built populous cities under almost insurmountable difficulties; who have built up the greatest natural industry in the West.

We ask the press of the country to study the situation and then come to the aid of California in saving her greatest industry by giving moral support to the fight that is being waged in Congress by our oil men.

It Is Up to Congress.

It is now up to the Congress of the United States to bring relief to the oil men of California. The industry has been imperiled through adverse action on the part of government officials, and all the oil men ask now is that they be given a square deal. The California Legislature, boards of supervisors and commercial organizations throughout the state have sent memorials to Congress, asking that body to enact suitable legislation for the protection of the oil industry of California; Secretary of the Interior Lane and Secretary of the Navy Daniels agree that the oil men who have developed the unpatented lands of Kern country have equities that should be recognized by Congress. It goes without saying that if the Congress makes a conscientious investigation of conditions it will afford the relief asked. It is up to Congress.

Not Asking Charity.

California does not ask charity nor sympathy from Congress. All this state asks is that the government do justice to the men who have made possible the great oil industry. It asks Congress to do justice

to consumers of petroleum and its products, for their pocketbooks are involved in the government's attack on the property rights of the men who developed the arid lands in good faith.

The attack of the government on the titles to many acres of operating lands in California resulted in a reduction of 1,000,000 barrels in the output of the wells. This caused a loss of that much from the amount for sales with a production of 1,000,000 barrels less than the amount sold, which in turn caused an advance in prices of 10 per cent on crude oil and 25 per cent on gasoline. It is the consumer who pays.

The Midway district is producing about half of the oil that is produced in California, and the attacks of the government are centered on the Midway lands. If the attack continues it will mean a skyward jump of prices.

Union Oil Trouble Settled.

The troubles that has been caused in the Union Oil Company by Treasurer John Garrigues was brought to a head last week when, at a meeting of the Company's directors, it was decided to dispense with the services of Garrigues, and President Stewart was elected to take care of the position until further arrangements are made. At the same meeting E. W. Clark, vice-president, was made general manager. The meeting cleared up the situation in more ways than one. It was invaded by a number of stockholders, purporting to be friends of Garrigues, who demanded that they be shown the option given to Requa for the Stewart stock. The option was produced and showed that the stock was optioned at 95, and that all stockholders were to receive the same amount.

There is a Double Reason.

Both economic and moral reasons present themselves in behalf of the efforts made to secure remedial legislation on part of Congress to protect the oil industry of California. Should the government prevail in its efforts to oust the men who have developed the unpatented lands of Kern county, one-half of the output of the state's refining oil will be taken from the market, with the result that there will be an immediate and considerable increase in the price of oil and gasoline. Men high in governmental position agree that the oil men are morally entitled to equities even though the government might legally deprive them of the fruits of their labors. The "Derrick" should like to feel that the government is too big to take advantage of technicalities in dealing with the men who have developed the public domain in good faith.

All that the oil men of California ask is a fair deal. They accepted the government's invitation to explore and develop the public domain and then, just as oil was discovered, President Taft issued a peremptory order withdrawing unpatented lands in the Midway and Sunset fields of Kern county. It was intended, and so stated at the time, that relief would be given to honest locators, but six years have passed and the men who made cheap fuel an actuality in California are now facing bankruptcy, which is sure to come unless Congress gives the relief that is asked.

It Will Be An Unjust Tax.

Secretary McAdoo has announced his suggestions for increased taxation and recommends, among other things, that a tax be placed on gasoline. This proposed tax if it become a law, will be paid by comparatively poor people. The automobile is no longer the "rich man's toy." It has come into almost universal use. On week days it is the delivery wagon of the small business man, and on Sunday it is his means of recreation and pleasure. It is the standby of the farmer both for work and recreation. It has served to change desolate places into pleasant country and has kept thousands of people on farms who otherwise would have drifted to cities. Cheap automobiles have been the godsend to people of moderate means, and it is reducing the cost of living by bringing about a development of the country otherwise impossible.

Poor people in ever-increasing numbers use gasoline in place of coal for domestic fuel. The price of gasoline is a matter of concern to the poor more than to the rich, as any increase in its price tends to increase the cost of living. If there be a tax on gasoline it will mean that thousands of people all over the United States will be deprived of their only means of Sunday recreation. They will feel this tax more than any other that can be imposed. It will mean the isolation of farmers' families and intensify the desire of the young people of the country to leave the farm for the city.

Secretary McAdoo also proposes to tax crude and refined oils. Here again he hits directly at those who can least afford to pay increased expenses. It would hit at every use of crude petroleum as a fuel, and would go to the extent of placing every phase of the petroleum industry on the taxable list.

There is neither rhyme nor reason in the proposition which simply places petroleum and its product on a plane with alcohol and its variants. Why not tax iron, copper, gold, silver or any of the many metalliferous substances?

Mergers and Rumors of Mergers.

"There shall be wars and rumors of wars, and the end is not yet." The Good Book might be paraphrased by saying there are mergers and rumors of mergers in the oil industry and no one knows what the end will be. One of the most fertile fields of imagination for the man who needs something to write about when news is scarce has been the merger field, and in the oil industry this has been the merger field. We have as perpetual stock in trade the efforts of the Independent Producers and the Associated and General Petroleum and Union Oil to come together, according to the daily press, and when everything else fails as a sensation for the reading public something is sprung in the merger possibilities.

There is no question that there has been persistent effort on part of interested parties to bring about a merger of these minor companies for the purpose of having a strong organization that will be capable of meeting on their own ground the Standard and Shell. Whether such a combination will ever be brought about is a question that no one seems able to decide.

In a recent issue of the San Francisco "Examiner"

appeared an article which had all the verisimilitude of truth, which gave the details of a proposed merger in which the Union Oil, the General Petroleum, the Associated Oil and the Independent Producers were to combine in a great \$200,000,000 corporation and enter the field equal in power and influence with the Shell and the Standard.

It is worthy of note in this connection that while it has been the disposition of certain influences to decry such a merger as a "pipe dream," the men most closely connected with the companies which the merger will put together, have not seen fit to make any denial of the fact that such an effort is being made. At the office of M. L. Requa, who is the moving spirit in this, as in all other efforts to bring about a consolidation of the smaller companies, it was stated that such a giant merger was not only in contemplation but was actually being pressed with evidence of early success. Arrangements have been made with large financial interests in New York to furnish the necessary money, and while there has arisen something of a cloud on the horizon because certain of the minority stockholders of the Union Oil Company believe they are to be sold out, it is specifically stated that every possible safeguard will be thrown around the individual stockholders of all the interests involved.

There is no question that such a consummation is devoutly to be wished. The organization of a big, strong company, whereby the dozens of little companies can be merged and absorbed, the owners securing stock for their interests, will be a wonderful boon for the men who have been struggling for so many years against adverse circumstances. They have been completely at the mercy of the big companies and could market their product only on the terms laid down to them, and in the manner prescribed for them. The result was that in many instances they have been compelled to store more than half of their well production or shut down entirely at times to meet the requirements. Under the new arrangement all of the wells will be operated by the one great company and the little fellows will forget their worries and profit by the advantages coming from a big consolidation.

It is to be hoped that the efforts of the men who are working for the merger will not be hampered by the fears of small men that they will lose by the deal. In the case of the Union Oil Company, it is specifically stated that the Stewart interests will sell only on terms that will fully protect the minority stockholders, and there is nothing to indicate that any other intention was ever had.

Leasing Bill Adopted.

The House Committee of the Congress adopted the provisions of the mineral land leasing bill, granting rights to oil operators in California and Wyoming who were dispossessed by President Taft's withdrawal order. The vote in the committee of the whole indicated the passage of the provisions of the bill on final vote.

By the installation of a new device on pump rods in the wells of the Lowell Oil Company, Maricopa, the production has been increased from 40 to 50 barrels a day to better than 200 barrels a day on the well.



General View of R

A Typical Oil Case

The Federal government has instituted some twenty-five suits against operators of unpatented lands in the Midway field, and it is well understood that between two hundred and two hundred and forty additional actions are in process of preparation and filing.

Up to the present date only one of these cases has been tried. As the first case selected by the government for trial it may be considered fairly typical of the strength of the government in these cases, as understood by the Department of Justice. The trial of the case before the court sitting without a jury consumed three weeks.

The evidence filled over 1700 pages of transcript. The arguments have not yet been heard. There were in attendance some twelve or fourteen lawyers representing the half dozen or more defendants who occupied and who, after large investment, have developed various parcels of the land involved. The entire area embraced in the case is 160 acres. The largest holding of any single defendant is 40 acres. The facts in the case are in the main undisputed, and are as follows:

Long prior to January, 1909, the quarter section in question was prospected and selected as probable oil bearing land by the predecessors in interest of the present occupants of the land. The location of the property was not inviting to anyone except a prospector who saw indications of a probable oil and gas bearing sand in the land. It is located three miles from Maricopa, a small town which has grown up in recent years in the Midway oil field, and forty miles from Bakersfield, the nearest city. In the

spring of 1909, when development work began, there were neither roads, lighting or water facilities within many miles of the property.

The climatic conditions were terrific, the thermometer frequently standing at 120 degrees. Water for drinking purposes had to be hauled from Bakersfield, and was usually forty-eight hours old when it reached the land. Provisions, meat and ice were equally difficult to obtain. Skilled drillers and workmen were unwilling to go to labor on a property which presented so many physical hardships, when positions were open with the larger and more wealthy operating companies in more accessible and desirable localities.

Amidst these rather discouraging circumstances, a group of men who theretofore had had experience in the Santa Maria oil field undertook to drill for oil in the quarter section. Operations began in December, 1908, and drilling in March, 1909, a well being drilled to a depth of 450 feet amidst great difficulties and with but poor success. The hole was what is known to oil men as a "crooked hole" and had to be abandoned. Not dismayed, the operators moved their derrick and started the drilling of a second hole. At a depth of 510 feet mechanical trouble was again encountered. In August, 1909, the expenditures to date had been \$18,000.

The stockholders of the company which was conducting the operations made an investigation, through a committee, to report on the previous operations and future possibilities of the company. The land itself is what is known as wildcat territory, that is, situated in advance of the developed oil district and not defin-



, Oil Refineries.

itely known to contain oil at depths which could be profitably operated.

The stockholders' committee concluded that operations should be suspended until the management of the operations could be reorganized and until additional funds to make still a further attempt could be procured.

In the meantime, drilling was discontinued, a caretaker placed in charge of the property, the tools left hanging in the second well and everything else left in condition to proceed when operations should be resumed. The actual drilling operations on the property ceased on Aug. 5, 1909, and some additional work done on the premises was completed during the fall of 1909.

In January, 1915, a new corporation with which negotiations had been conducted for the drilling of the property and which had entered into a contract with the original company whereby, in consideration of such further operations, the land should be divided between the two companies, commenced the drilling of the third well on the premises. This was pushed to completion and in June, 1910, oil was struck in paying quantities.

From that time forward the property was rapidly developed and all portions of the quarter section drilled, so that in 1914 there were on the premises some thirty wells, which, with other improvements on the land, had cost a total of approximately \$900,000. In that month the Federal government undertook to oust all of the occupants of the land on the ground that at the date of the withdrawal of September 27, 1909, the property was not in process of development or drilling.

In addition to the foregoing conceded facts the operators claim that gas was discovered on the premises in substantial quantities prior to September 27, 1909, in each of the two wells first drilled, and

that the location was perfected by such discovery prior to the order of withdrawal. This fact has not been conceded by the Department of Justice. The other facts have been admitted and they seem to speak for themselves in portraying a situation in which the Federal government is attempting to avail itself of the utmost technicalities of the law to deprive a number of oil operators of the well-earned fruits of honest and hard labor.

Two New Tankers to Be Built.

The Union Iron Works has signed contracts for the construction of two new tankers for a big Norwegian concern. These vessels will be 80,000 barrel capacity and of the same type as those building for the Union Oil Company. The price is said to be sharply in advance of that to be paid for the Union Oil steamers, the contracts for which were signed a year ago. Since then there has been an advance in cost and the Norwegian concern will pay \$1,000,000 for each steamer.

The Western States Porcelain Company at Richmond has ordered Additional Machinery and will build more kilns and factory buildings.

Mr. A. W. Naas is having plans drawn for a \$15,000.00 apartment building to be constructed on the River's tract, Richmond. This fine apartment building will be located on Broadway near the Western States Porcelain Company's extensive works. It will be cement finish, of artistic design with a twenty-foot deep open court with a fountain in the center. Every apartment will be rented before the building is completed.

CALIFORNIA CONCENTRATES

The Western Pacific Railway has reduced rates on asphalt in earload lots from the producing territory in California to Colorado points, from 50 cents per hundred pounds to 35 cents per hundred pounds.

The Coalinga Hub Oil Company is preparing to levy an assessment to secure funds to put the hole drilled on its property in shape.

The Amalgamated Oil Company has just finished two derricks at Fullerton and will start wells at once.

The West Coast Oil Company has two rigs up at Fullerton for the commencement of two new wells.

The American Industrial Oil Company of Phoenix, Ariz., has been incorporated with a capitalization of \$2,000,000.

The Berry and Keller Oil Company, operating in the northern part of the McKittrick field, is going to redrill No. 3, on section 13, 20-21.

The Golden State Oil Company, of Vernon, Cal., has been incorporated with a capitalization of \$50,000.

Kern Trading and Oil Company is preparing to get very busy on section 1, 32-23, Taft. Orders have been given for materials for three derricks to be built on the northwest side of the lease.

The California Oilfields Company will redrill well No. 22, on section 2, 20-15, Coalinga field. It will also redrill well No. 8, on section 10, 19-15, and wells Nos. 2 and 24 on section 27, 19-15.

The Fulton Road and Oil Company has quit active operations at Maricopa, leasing its properties to the Amity Oil Company.

The Coalinga-Mohawk Oil Company has filed inten-

tion of starting well No. 7, on section 12, 20-15, Coalinga district.

General Petroleum Company will deepen well No. 1, section 6, 20-15, to second sand, about fifty feet below first sand.

The Sylvia Oil Company, formerly the Wabash, is installing electric pumps on its wells on section 24, 20-14, Coalinga.

The Coalinga Mohawk Oil Company will redrill well No. 4, on section 12, 20-15, Coalinga, to correct water trouble.

The Inea Oil Company will redrill well No. 7, section 24, 20-14, Coalinga, and shut off the water.

The Ethel D. Oil Company has started some new work in the Maricopa district.

The United Crude Oil Company, recently leased under an operators' contract by Charles Munding, has had three wells on the lease on section 2, 11-24, Maricopa, placed on the producing list.

Lakeview No. 2 Oil Company is rushing work on a new well, to be known as No. 4, on section 4, 11-24, Maricopa.

The Interstate Oil Company is working on well No. 4. It will be drilled to the gusher sand in the Maricopa district.

It is announced at Bakersfield that the Independent Agency has contracted 5,000,000 barrels of oil to the Associated Oil Company.

Henry Ash, president of the Monte Carlo Oil Company, has bought the Kern River field property of the Homer Oil Company.

The North American Consolidated Oil Company is preparing to drill twenty wells on its Mt. Diablo division on section 26, 32-23.

The Dudley-Dudley Oil Company, is planning extensive developments in the Lost Hills district.

The Lost Hills district has developed a second pay sand which shows up much better than the first sand.

The Midway Gas Company has brought in a big gasser, showing better than 3,000,000 cubic feet a day.

The annual meeting of the stockholders of the Standard Oil Company of California will be held at the Company's offices at Richmond, California, on Monday, February 21st. Stockholders of record at close of business February 9th, 1916, will be entitled to vote at the election.



Asphalt Ready to Sail

Fleishhacker Hits the Nail.

Herbert Fleishhacker, president of the Anglo and London-Paris National Bank of San Francisco, has given much study to the oil situation and is pronounced in his views of what the present agitation means for the industry.

"The salvation of California's manufacturing interests is dependent upon the preservation of California's oil industry," says Herbert Fleishhacker, president of the Anglo and London-Paris Bank of San Francisco. "The public, or a considerable portion of the public, seems to be of the opinion that the parties most deeply concerned in the government's attempt to take over 35,000 acres of developed lands in the California Midway Oil district are oil producers and the Federal government. That is a mistake. The party of the first interest, the party vitally concerned, is the California public. That means the manufacturer, the taxpayer, wage earner, merchant, the housewife who uses gas for cooking fuel.

"If the agents of the government succeed in the program which means the elimination of the independent producer and the virtual destruction of the California oil industry, the tremendous losses suffered by citizens of California who developed that industry will be insignificant in comparison with the losses suffered by the general public. Prior to the discovery and development of the oil industry, manufacturing was anything more than a negligible quantity was impossible in California.

"The excessive cost of coal fuel coupled with the necessarily greater cost of transportation and labor, put a handicap on the Californian which effectively barred him from competition, even in his own state, with the Eastern manufacturer.

"Then in response to the Federal government's invitation, California citizens put California courage and California money into the most arduous mineral development work ever undertaken in this country. They produced a fuel so cheap that the California manufacturer could save enough from coal prices to equalize the labor and transportation cost handicaps. They put the California factory, the California manufactured product, on the map. California oil has builded California communities; made wages of the California standard for many thousands of men and women. It has increased public revenue and decreased public debt. It has increased wages and helped decrease the cost of living.

"When gas was made from coal, the price per thousand feet was around \$1.50. Its use was limited. With the advent of California oil, gas prices went down steadily. In many places the rate is 75 cents and gas is now the cooking fuel in all of California's cities and in scores of its smaller towns. A return to the use of coal for the manufacture of gas would involve the expenditure of many millions of dollars for the change of machinery alone. Those millions would be charged to and collected from the consuming public in gas rates from sixty per cent to one hundred per cent higher than those now prevailing.

"The government's activities have within sixty days resulted in an oil production of one million barrels a



All
Refinery
Gas—not
a mixture

Dealers every-
where and at
Service Stations

OF
Standard
Oil
Company

(California)



Red
Crown
*the Gasoline
of Quality*

month short of the actual sales in California and the consequent increase of from ten per cent to twenty-five per cent in the prices of fuel oil. Now, if the government succeeds in its program to seize and stop

approximately thirty per cent of the whole oil production in this state, prices must inevitably soar to a plane that will make manufacturing in California impossible."

A Most Iniquitous Tax

The Western Petroleum Refineries Association, of Kansas City, Mo., has issued the following, which is of vital interest to the oil industry:

"The administration at Washington proposes to impose a revenue tax on crude oil, kerosene and gasoline, as well as on automobiles.

"We contend that since internal combustion engines furnish more horse power than all other sources of power combined and since kerosene and gasoline are the source of this industrial horse power, these products of petroleum should not be taxed.

"A tax of one cent a gallon on kerosene and gasoline would amount to approximately \$40,000,000; a tax of 10 cents a barrel on crude oil would aggregate at least \$26,000,000, and a tax of \$5.00 on each automobile would mean \$13,750,000, or a total of approximately \$80,000,000.

"What crime have these users of petroleum and its products committed that they be so discriminated against?

"Gasoline has become almost as much of a daily necessity as wheat. It is used for power, for light, for heat, for food, for medicine, in all the arts, in the manufacture of more than a thousand daily necessities. All these articles are furnished the public as cheaply as they can possibly be made. Why should the government impose a tax that would increase the cost of these articles from 10 to 25 per cent? The consumer in the end pays it all. Would the government think of placing such a revenue tax on wheat?

"There are approximately 2,750,000 motor cars in the United States. They use about 500 gallons of gasoline a year each. Therefore, auto owners, besides paying a tax on their cars of \$13,750,000, would be compelled to pay a gasoline tax of \$16,000,000. In addition to this they would have to pay the big end of the \$26,000,000 tax on crude.

"The automobile horse power alone amounts to more than all other horse power in this country. Its fuel is gasoline. To levy a tax on gasoline would be to burden one of the greatest sources of industrial power, WHICH OUGHT TO BE FREE FROM TAXATION. If the 2,000,000 automobile owners of the United States would write to the Senate finance committee and the House ways and means committee at Washington, they could by their very number make these legislators think twice before imposing such a tax.

"Millions of motor cars are owned by farmers; there are more than one million gasoline engines on American farms; and 16,000 tractors west of the Mississippi. Already tractor owners are complaining of the cost of operating their gasoline-driven machines and the mere mention of a tax of one or two cents additional per gallon is like waving a red flag in their faces. There are millions of oil burning stoves in farm houses. A tax on kerosene, as proposed, would increase the cost of fuel to the farmer about 10 per cent as eventually he would pay all the overhead expense of "passing it on." There are millions of gasoline lamps in farm houses in America. The

cost of operating these would be increased from 8 to 10 per cent. The farmer can exert a wonderful influence by protesting against this unnecessary and unfair tax.

"If the proposed tax on crude, kerosene and gasoline is imposed, almost every man, woman and child in America will be affected. It must seem strange to the consumer that our legislators at Washington can think they are gouging the Standard Oil Company by taxing an article of such common use as petroleum. It must seem strange to the consumer that an industry so important as petroleum should be singled out and taxed to death.

"The Western refiner today is compelled to pay one-twentieth of one per cent on capitalization annually; two per cent on every barrel of crude produce, including royalty oil; one-sixteenth of 100 per cent on all lease equipments above ground; one-sixteenth of 100 per cent on all pipe lines to county, township and school districts; 1.1 per cent on all tank cars, according to mileage covered annually in each state; from 1.6 per cent to 3.5 per cent on all distributing stations, including equipment, average stock on hand, cash and accounts; 1.25 per cent state, county, township and school district tax on refinery, including average stock on hand, cash and accounts; 10 cents per barrel state inspection tax, nearly 1-4 cent per gallon; Federal war tax on all notes and official documents; Federal tax on bond coupons not exempt, and Federal income tax on net earnings.

"According to the published statement of the Atlantic Refining Company, it lost last year over \$1,000,000. A Kansas City refining concern closed its Kansas City offices last week because it had been losing money for a year.

"One moderate sized refinery reports a tax of one cent a gallon based on the output of last year would amount to \$230,000; another refinery it would cost \$900,000; another \$800,000; one \$650,000; another \$368,000; another \$110,000; another \$425,000; several \$75,000, etc. The cost of booking these accounts and collecting the money would have to be passed on to the jobber and he would have to do the work all over again, and by the time the gasoline reached the consuming public the tax would be almost double, and the consumer would have to pay the bill.

"The market price of crude oil today is so high that it is difficult to conserve working capital. The price of gasoline has soared because of scarcity of crude until it is making the cost of automobile travel excessively high. To add from one to two cents a gallon arbitrary revenue tax would be to place a serious embargo upon domestic commerce. The farmer will be compelled to revert to the horse plow. The automobile truck will have to give way to former methods of transportation.

"There is no more reason why oil should be taxed than there is why other staple articles, such as coal, iron, flour, lumber, meat, etc., should be taxed. Petroleum and its products have ceased to be luxuries. Any action that affects economy in the operation of

gasoline propelled vehicles or machinery is a serious blow to commerce and business.

"Therefore, the imposition of the proposed tax would mean the singling out of the oil industry among all the legitimate business of the country for a discriminatory and burdensome tax. It would place gasoline in the same category with liquor and tobacco, which are universally looked upon as harmful to mankind, whereas gasoline has become one of the greatest aids to human progress, annihilation of distance and comfort of mankind. It would enormously increase the capital requirements of the independent producer, refiner and marketer at one of the most critical periods in the history of the petroleum business. It would tend to check the tremendous progress caused by the development and introduction of gasoline and other engines using products of petroleum, and would probably result in a permanent tax on gasoline because of the impression of Congress that the Standard Oil Co. would pay the tax and that it is a luxury instead of a necessity.

"Every user of petroleum, kerosene and gasoline should oppose the tax as being exorbitant and discriminatory, because it imposes a tax upon articles of common necessity and not upon articles of luxury which is contrary to the settled policy of this government and ought not to be departed from, because the petroleum industry is now in an abnormal condition owing to the fact that the war demands of Europe have depleted our supplies and prices have already advanced as high as the consuming public can afford to pay, because of the startling decrease in the production of crude petroleum in this country, because the Standard Oil Co. could absorb the tax where it had competition and pass it on to the consumer where it had no competition, and because the tax applied at the point of manufacture would necessarily be a tax upon exports which, if so considered, would be forbidden by Article 1, section 9, Paragraph 5, of the Federal Constitution, which forbids the taxing of any article exported from any state.

"All oil fraternities, automobile associations, farmers and other consumers should get in touch with each other and protest by letters and telegrams to the members of Congress, and especially to members of the Senate Finance Committee and House Ways and Means Committee. Sympathetic protests from other associations and interests should also be secured until the whole citizenship becomes a negative expression voiced loudly to Congress as soon as the bill is introduced."

Transmission and Rear Axle Lubrication Important.

The importance of transmission and rear axle lubrication is often overlooked by the automobile owner and truck operator and considered as a minor detail. The lubrication of these parts is fully as important as the lubrication of the motor, states a recent bulletin gotten out by the Standard Oil Company's experts.

The entire load of the car or truck is taken by the two teeth in the transmission and the two teeth in the rear axle, which are in mesh. These teeth should be separated by a film of oil, otherwise the motor will fail to deliver the power at the rear wheels that it should; the gears will wear rapidly and become noisy.

In the lubrication of the ball bearings, it is necessary to maintain a film of oil between the ball, cone

and race; otherwise these parts will not receive correct lubrication. This will result in excessive bearing wear, throwing the gears out of alignment, rendering them noisy and will cause a considerable loss of power at this point.

Oil is a more suitable lubricant for this purpose, states this bulletin, than hard grease, because of its fluidity and ability to penetrate the minute clearances between the ball and race, which is only one-tenth-thousandth of an inch. Another reason why hard grease is not so suitable as oil is that the revolving gears will cut a path through the hard grease and allow the gears to run dry.

Pacific Coast refiners are claiming that lubricants made from asphalt-base, California crude, give best results, and are substantiating their claims by the recent findings of prominent motor engineers and the Exposition juries, as well as records of results of actual service.

Interstate Commerce Commission Tells of Work.

One of the most interesting documents that has recently come out of the public service commission is that which has been issued by the Interstate Commerce Commission. Chief among its recommendations is an increase in the size of the commission and legislation giving the commission authority over railroad security issues. The first of these is a new departure, for in all previous years the commission has disappeared any change in the number of its members, which now consists of seven. While the report does not specify the number, it is understood that a board of nine members is now desired. In order to carry on the work of the commission the report recommends that the increased commission be given statutory authority to act through subdivisions. It is believed that the subdivisions of the body will be in three sections: three members to consider rates; three to consider matters relating to finances of common carriers, and three to handle the great work of the physical valuation of railroads and the revision of rate structures in harmony with the findings of the valuation investigation which now is in progress.

This means that the commission seeks authority over stock or bond issue of rates in order to prevent stock watering and allied evils of big business manipulation.

The Commission practically admits, in spite of its efforts to adjust railroad rates in the United States on a basis productive of harmony in the face of both carriers and commission, it has failed in its mission.

Dollar Line Buys New Ship.

The Robert Dollar Steamship Company has announced the purchase of the British steamer Strathardle from Burrell & Sons, Glasgow, which will be brought here forthwith to run for the new owners out of Vancouver in the Oriental trade.

The Strathardle is of 4377 tons gross, with a carrying capacity of 8000 tons. She is 376 feet long, 52 feet in beam, and was built in 1910. The ship is at present in Cardiff, Wales, but will start for this coast immediately.

Dividend Notice THE GERMAN SAVINGS AND LOAN SOCIETY (The German Bank) 526 California Street, San Francisco

For the half year ending December 31, 1915, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, payable on and after Monday, January 3, 1916. Dividends not called for are added to the deposit account and earn dividends from January 1, 1916.

GEORGE TOURNY, Manager.

Union Oil Company of California

The Union Oil Company of California is the outgrowth of an amalgamation of a number of the smaller oil companies established in the early days of the California oil industry. It has always been independent of other and larger corporations having no connections of any kind to enforce upon it a policy of subservience to special interests.

Its present strong position is the result of twenty-five years of able management as the Union Oil Company, after several years of pioneering in the Ventura fields on the part of Mr. Lyman Stewart, now Chairman of the Board, and his associates.

Mr. Stewart, having first satisfied himself as to the oil prospects of the surrounding territory, located at Santa Paula in Ventura County, and gathered about him a number of his former associates in the Pennsylvania fields. Amongst these were Mr. W. L. Hardison and Mr. John Irwin. In 1883 as the Hardison-Stewart Oil Company, with Mr. John Irwin as Field Superintendent, operations were begun in Pico Canon, near Newhall, on land leased from the Pacific Coast Oil Company, which had a small group of wells there and a small refinery in Alameda. That company and the Rowland and Lacy Company operating at Puente, near Whittier, alone occupied the field at the time. Leases were also taken in Adams Canon, on the old Rancho Ex-Mission De San Buenaventura and in Santa Paula Canon.

Operations began with a field force of thirty-five oil men recruited from the East. Six wells were drilled and about \$135,000 spent before striking a paying well. In these days of large expenditures in oil development this sum looks small, but considering the times, and that these men were operating in a country several thousand miles away from the nearest commercially proven oilfield, and in one where at the same time proper facilities and markets were yet to be developed, it will be appreciated that no little faith and courage were required. To add to their difficulties disputes arose over land titles, but eventually these obstacles as well as those of a physical character were overcome.

Operations were extended and additional land acquired by purchase. More wells were drilled—one of these, No. 16 on the Rancho Ex-Mission, was brought in with an initial production of 1000 barrels of oil a day. Other successes followed, and, encouraged by results obtained, two other companies were organized, in both of which Hardison and Stewart were interested—the Sespe Oil Company and the Torrey Canon Oil Company. In 1890 the three companies, together with the Los Angeles Oil Co., Rainbow Oil Company, Mission Transfer Company and others were merged into one, as the Union Oil Company, with a capitalization of \$5,000,000; later this was increased to \$10,000,000 and then to \$50,000,000.

At the beginning of 1915 somewhat over \$11,000,000 of this had been issued. The operations of the Company have now been enormously extended in all directions. Its land holdings now comprise over 226,000 acres, not including those of companies controlled by it. Its oil lands, rights and leases are conservatively valued at approximately \$23,000,000, while its wells, of which more than three hundred are producing and forty-six drilling, represent \$7,000,000 more. Pipe

lines and storage systems serve all the important fields, and its water transportation facilities are represented by a fleet of twenty-six steamers and barges, of which but six are chartered, the whole fleet having a carrying capacity of 800,000 barrels. Investments in transportation and storage facilities now amount to nearly \$7,000,000.

Early in its career the Company undertook refining operations on a small scale at Santa Paula. This plant was destroyed by fire in 1896 but later replaced. The success experienced demonstrated that more extensive facilities were required, and in 1895 a site was purchased at Oleum on San Pablo Bay near San Francisco, at which point its principal refinery is now located. In addition to these two refineries, three others are now operating at strategical points—Bakersfield; Stewart, near Los Angeles, and Alvila, on the coast near San Luis Obispo. The Company is also engaged in the extraction of gasoline from the large amount of natural gas produced on some of its leases. One of these plants is probably the largest yet installed anywhere. When the construction work now under way is completed, the Company will have invested over \$3,000,000 in its refineries.

An extensive system of distributing and marketing stations has been developed all over the Pacific Coast ranging from Alaska to South America. Unusually complete stations have been erected in all of the principal cities, with less elaborate ones in the smaller communities, at a cost of nearly \$4,000,000. These are being continually increased in number.

The Company now produces, transports, refines and distributes all products derivable from the California petroleum, having last year marketed over \$20,000,000 worth of products. Its ships carry fuel oil to all of the principal ports of the Pacific Coast in both American continents, and reach westward to Hawaii. Its refined oils are delivered by the shipload not only to domestic ports but to Europe and Asia. Asphalt is shipped to Atlantic ports by steamer and sail, and by rail to the Middle West, and in normal times to Europe. In fact, the Union Oil Company now has practically the entire world for its market, and competes successfully everywhere.

First, in point of mere bulk, ranks Fuel Oil. On the face of it no particular interest would appear to attach to the Fuel Oil business. It would seem that all that might be necessary would be to produce the oil from the ground and hand it over to the consumers to be burnt without special preparation. However, the actual facts are unfortunately somewhat more complicated and the users of oil fuel have manifold requirements; each particular industry using fuel has its own, and nearly every customer has special needs—either actual or fancied. In any case all of these conditions must be met, and while many consumers are properly served with carefully selected and cleaned crude oil, a very large class requires specially prepared fuel to meet highly specialized conditions, with the result that no little care and skill are demanded in the manufacture of a suitable material having the desired characteristics. In metallurgical operations and the manufacture of gas, for example, requirements are different than for use on board ship. The different navies, again, have different specifications; Diesel engines and

semi-Diesel engines differ from each other in the kind of fuel needed, and so on in almost infinite variety. All of these manifold service conditions the Union Oil Company of California has provided for, and supplies for each instance the particular fuel best adapted to it, so that whether it be for the United States or foreign navies, for the manufacture of ordinary illuminating gas or Pintsch gas, or to meet the specifications of marine classification societies, or for Diesel engines, household use, smudge oil for orchards, for steel works and smelters, for briquetting coal or for hatching eggs,—proper fuels have been prepared. Each industry demands certain flash or burning points, specific gravity, viscosity, heat value, freedom from sulphur and other technical characteristics of no particular interest to the layman, but involving proper selection of raw material and subsequent treatment to produce.

In the refining of California oils the final or end product of the distillation process may be either a fuel oil, usually known as residuum, or asphalt, best known to the public in the form of asphalt pavements. The best refining oils, however, are not necessarily the best for the manufacture of asphalt, so the Union Oil Company of California does not manufacture asphalt as a by-product of the refinery but selects for the specific purpose of making asphalt only such oils as have the proper physical and chemical characteristics; as a result of this procedure and the careful attention given every stage of the operation to control the quality of the product, the Company believes that it has perfected the manufacture of asphalt to the highest degree yet attained.

The products derived from petroleum and manufactured by the Company cover the entire range from the lightest volatile substances which boil actively at the temperature of the hand to the heaviest of lubricants. The Company has been perhaps fortunate in that as it is comparatively young it has not inherited an outworn assortment of refining conventions. It has not hesitated, therefore, to depart from methods established by tradition and has developed processes and apparatus of its own, peculiarly fitted to California conditions and capable of manufacturing economically products of the highest quality. Continuous investigations are conducted to improve its facilities and the character and the variety of its products. That this policy is effective is best evidenced by the fact that in the face of increased competition, backed by powerful financial interests, its sales of refined goods have uniformly increased in volume more rapidly than can be accounted for by the increase in the consuming population of its tributary territory, and this without any attempt being made to undersell competitors.

Work of Accident Commission.

On December 1st the Industrial Accident Commission reported to Governor Hiram W. Johnson its transactions for the fiscal year ending June 30, 1915. This report covers the Departments of Compensation, Insurance and Safety, with their allied sections, and is accompanied by a full statistical report of the 62,211 industrial accidents that occurred in California during 1914. These accidents were divided as follows: deaths, 678; permanent injuries, 1,292; temporary injuries, 60,241.

The Commission points with satisfaction to the large number of acceptances of compensation received from

employers in the exempted classes of agricultural and kindred callings and household domestic service. The last report, covering the first six months of 1914, showed that 2,820 employers had filed with the Commission written acceptances of the compensation provisions of the law. During the year ending June 30th last, 4,038 additional acceptances were filed, making a total of 6,858. These voluntary acceptances brought many thousands of employees under the benefits of the Workmen's Compensation, Insurance and Safety Act.

It is shown that there has been a change in sentiment concerning the new system and that workmen's compensation is now universally regarded as an equitable method of providing a limited income for those who are hurt while at work, in comparison to the inequities that prevailed under employers' liability.

The report of the Compensation Department deals with the methods of conducting cases in which there are disputes between employers and employees or other interested parties. Mention is made of the plans followed to avoid formal hearings and to reach an amicable agreement between the parties whenever a dispute arises. There was a steady increase in the number of cases filed for decision, there being 1,151 filed during the fiscal year, 23 arising under the law of 1911 and 1,128 under the present law, an average of 96 per month. The issue in 331 of the cases decided during the fiscal year was the extent and duration of disability. There were 15 other issues on which the remainder of the cases hinged. Wilful misconduct was an issue in 23 cases and intoxication in 7 cases. Important questions are pending in the appellate courts as to whether the Industrial Accident Commission has extra-territorial jurisdiction and whether the employer can invoke the Federal law limiting liability when a vessel is lost.

A study of the sixty odd thousand accident reports for the year 1914 reveals some interesting features of California's industrial problems. Six hundred and eight workmen, of an average age of 39, suffered death. About 48 per cent of those killed left 625 people totally dependent. The average age of those widowed through industrial accident is about 39 years. These widows on an average must provide for about 2¼ children of an average age of 9 years. To help meet this burden, employers and insurance companies have already paid \$243,366.00, and payments will continue for four and one-half years from date of accident.

One thousand two hundred and ninety-two workmen suffered nearly all the conceivable forms of physical mutilation. Parts or all of over 600 fingers were cut off; 172 eyes are either missing or have suffered serious impairment of vision; 28 arms and 45 legs were amputated; 31 men were sufficiently disabled to require a life pension. To repair and relieve these workmen already \$604,743.00 has been paid, and payments will continue, in some cases, as long as life lasts.

The 60,241 men and women who received injuries which left no permanent effect, did suffer sufficiently, however, to require the expenditure of over one million dollars to cure and relieve them from the effects of the injuries.

The time lost through the sixty odd thousand temporary injuries is equivalent to 3,000 men being laid up for the entire year.

A new modern three-story apartment building has been constructed near the "Andrade" apartments in Richmond.

General Petroleum Company

To fully describe the development of the General Petroleum Company is to record the growth of the California oil industry and the ever-increasing consumption of California oil products.

Organized as a producing company under the laws of the State of California March 30, 1910, with 390 acres of land in California and with an average production of only 400 barrels of oil a day, this company has grown until it now holds approximately 23,644 acres of land in the various California oil fields, upon which are 225 producing oil wells, yielding in excess of 10,000 barrels of oil a day, and in addition holds approximately 24,500 acres of land in Mexico, upon which development has not been commenced, including necessary water frontage in the harbor of Tampico.

The activities of the company has expanded to such an extent after two years that those responsible for its organization and growth were convinced that marketing facilities must be provided.

A company was therefore organized, controlled by the General Petroleum Company, to construct an oil pipe line from the source of production to tide-water.

This company now owns and operates an oil pipe line of a capacity of 30,000 barrels of oil a day, running from the Lost Hills oil field, in the Midway district, Kern County, in a general southeasterly direction, through the Belridge oil field, Midway oil field, and Sunset oil field, over the Tehachapi mountains, which rise 4,200 feet above the sea level, down through the towns of Newhall, Fernando, and Tropic, to Los Angeles, to Vernon, and on to the tide-water at Los Angeles Harbor, a total distance of 170 miles.

In addition to the main oil pipe line, a branch line is operated from a pump station in the Tehachapi mountains, called Lebec, to the town of Mojave, a distance of about 52 miles, for the purpose of supplying the Atchison, Topeka & Santa Fe Railway Company with oil at that place.

The transportation of the crude oil from the oil fields to tide-water is interrupted at Vernon, in Los Angeles county, and the crude product run through a refinery erected at that point, with a capacity of approximately 20,000 barrels of oil a day. A cleaning and separating plant is located at Kerto, in the Sunset oil field.

As a necessary adjunct of the pipe line system and marketing facilities, the General Petroleum Company owns and controls steel tankage of 3,380,000 barrels capacity, and has just completed a reservoir of 500,000 barrels capacity on the hills back of Los Angeles Harbor.

Since completion of the oil pipe line in May, 1913, the number of barrels of oil transported, to January 1, 1916, totaled 14,301,642.

The means of inland transportation having been accomplished, the company then had constructed, and controls, two oil tankers of the most improved type, and of a capacity of 68,000 barrels each, and owns

outright an additional oil tanker of a capacity of 33,000 barrels.

A supply station was established at Meadow Point, near the city of Seattle, including wharf, with necessary pumping station and tanks, to provide for Puget Sound and northern deliveries. Tank car shipments are made from this point as well as from a delivery station in the city of Seattle, from which, also, four barges operate.

By reason of exchange agreements with other companies, the General Petroleum Company makes deliveries of oil to all other ports of call on the Pacific Coast.

The products of General Petroleum Company are delivered over a wide and ever-increasing territory, ranging from Alaska on the north to Chili on the south, and from the Rocky Mountains on the east to the Hawaiian Islands on the west.

A great variety of industries are served,—public service corporations engaged in generating gas and electricity; the great system of the Atchison, Topeka & Santa Fe Railway Company; vessels, both large and small; municipal buildings, hospitals, churches and other consumers of California oils.

The General Petroleum Company has materially contributed to the building up of the oil industry and to the prosperity of the state. The actual cash expenditures for field equipment and property development as of November 30, 1915, totaled \$5,693,700.90, and the cost of the pipe line system was in excess of \$4,750,000.

These facts and figures show what has been accomplished in a little less than six years, notwithstanding financial depressions and the great and many obstacles encountered by those who have aided materially in the development of a new industry. But, on the other hand, it is an undeniable fact that the present attitude of the government of the United States on the question of the public lands withdrawn by President Taft on September 27, 1909, has had a very deterrent effect on the activities of the General Petroleum Company, particularly in the past year, not so much because of direct attacks, but rather from the necessary policy of restricting purchases of oil to those operating on lands already patented. The result of such a policy has been keenly felt by the small operator, who finds the market for his product so severely limited.

To the end that justice may be accorded those who have expended millions of dollars in developing what had theretofore been a desert waste, and in providing the necessary marketing facilities, that California oil might turn the wheels of industry and make possible manufactories that could not otherwise have existed, it is imperative that Congress pass an adequate relief bill.

The figures following give the quantities of oil produced and purchased by the General Petroleum Company:

Year	Oil Produced	Oil Purchased	Oil Handled On Exchange	Total Oil Taken Into System
1910	172,169 Barrels	0 Barrels	0 Barrels	172,169 Barrels
1911	645,560 Barrels	0 Barrels	0 Barrels	645,560 Barrels
1912	1,876,249 Barrels	152,949 Barrels	0 Barrels	2,029,198 Barrels
1913	3,680,835 Barrels	2,002,234 Barrels	1,237,703 Barrels	6,920,772 Barrels
1914	4,455,181 Barrels	2,865,382 Barrels	2,610,979 Barrels	9,931,542 Barrels
1915	3,816,008 Barrels	1,533,748 Barrels	2,670,510 Barrels	8,020,266 Barrels
	14,646,002 Barrels	6,554,313 Barrels	6,519,192 Barrels	27,719,507 Barrels

Pipe Line Protection Important

One of the most essential by-industries brought out by the laying of pipe lines for the conveyance of oil is that of protecting the pipe from corrosive action of the soil through which it passes. Many methods have been used in California, but that which has given greatest satisfaction and which has proven itself the most useful has been the Bitumastic enamel process, which shows in excellent condition after a test of seven years through the corrosive delta land of the San Joaquin river country and the Alkali soil of San Luis Obispo County.

When the Shell Company laid its great pipe line from the oil fields to Martinez the question was gone into very thoroughly with the result that a contract was entered into with the firm of Hill, Hubbel, & Company, of San Francisco, who undertook to take charge of the pipe after it was sewed, apply bitumastic enamel, lower the pipe into the trench and then do the backfilling work.

Hill, Hubbel & Company proved themselves capable of fulfilling the requirements of the contract for they immediately devised special machines for applying the protecting covering, which consists of two coats, first a coat of liquid primer and then a coat of bitumastic enamel, which is solid at ordinary temperatures.

The priming coat is applied by a machine driven by a 6-h. p. gas engine, the machine itself, which travels on wheels resting on the pipe, has a rotating brush and scraper on the front end for removing dirt and



Motor Driven Pipe Cleaning and Painting Machine

mill scale, and on the back end a large wheel supporting on moving spindles rotating brushes for applying the material.

When this priming coat sets, which takes from two to four hours, a second machine, similar in many respects to the first, puts on the pipe the bitumastic enamel, about one-eighth of an inch thick. This machine is operated by hand which turns a crank causing it to move along the pipe. As it moves along it is served with the melted enamel from large kettles mounted on wheels, petroleum being used as fuel.

After the enamel is applied the pipe is thoroughly inspected and then touched up where there seems to be a deficiency. Then the pipe is lowered into the trench and laid in a zigzag condition which operation is followed by backfilling. The machine which does

this removes the material which has been taken from the trench and places it in the trench covering the pipe. This machine is operated by a 40-h. p. automobile motor which straddles the trench and operates a series of flat blades attached to chains traveling transversely to the ditch.

When it is remembered that Hill, Hubbel & Company devised machines for covering and laying of the pipe lines, it is easy to realize what it means to put such contracts in the hands of men who are able to meet and overcome problems with advanced ideas.

Oil Field News.

But little of interest obtains in reports of field operations for December. Production shows a small decline, and reached the lowest level since May, 1912, says the "Standard Oil Bulletin."

Shipments exceeded production 20,739 barrels daily.

Shut-in production, chiefly in the Coalinga field, is estimated at 12,000 barrels daily.

But 20 wells, yielding an initial daily production of 3950 barrels, were completed during the month.

Summary of developments and production for all California Fields for December is as follows:

FIELD	New Rigs	Drilling Completed During Month	Abandoned	Wells Producing	Production Per Day
Kern River	2	10	2	1,684	23,340
McKittrick	5	5	..	276	8,697
Midway - Sunset	21	44	10	1,418	104,691
Lost Hills - Belridge	7	12	2	248	11,439
Coalinga .....	..	12	1	804	33,248
Lompoc and Santa Maria	1	7	..	237	12,460
Ventura County and Newhall	1	20	..	444	3,215
Los Angeles and Salt Lake .....	..	..	..	691	5,236
Whittier - Fullerton	2	72	5	613	34,037
Summerland .....	..	..	..	112	155
Watsonville .....	..	..	..	5	75
Total	39	182	20	6,532	236,593
Total crude oil stocks December 31, 1915, 57,147,051 Barrels.					
Total shipments from fields, December, 1915, 7,977,289 barrels.					

Crude Oil Prices at the Well.

San Francisco, Cal., January 14, 1916, effective December 28, 1915, Standard Oil Company offers the following prices for crude oil at the well:

SAN JOAQUIN VALLEY FIELDS (Kern River, Midway-Sunset, McKittrick, Lost Hills-Belridge, Coalinga)	
14 Deg. to and including 17.9 deg. gravity, per barrel, \$0.43.	
18 Deg. to and including 18.9 deg. gravity, per barrel, \$0.44.	
And for each increase in gravity of one (1) full degree above 18. deg. gravity, one (1) cent per barrel additional.	
VENTURA COUNTY	
25 Deg. to and including 25.9 deg. gravity, per barrel, \$0.67.	
And for each increase in gravity of one (1) full degree above 25.0 deg. gravity one (1) cent per barrel additional.	
WHITTIER-FULLERTON FIELD	
16 Deg. to and including 17.9 deg. gravity, per barrel, \$0.48.	
18 Deg. to and including 18.9 deg. gravity, per barrel \$0.49.	
And for each increase in gravity of one (1) full degree above 18.0 deg. gravity, one (1) cent per barrel additional.	

Mexican Petroleum Fleet Increases.

The plans of the Mexican Petroleum Company provide for the addition of nine steamers to the company's fleet of tankers before March, 1917. Two of the new addition to the fleet have been purchased in California. The others will be new vessels built especially for the company.

The Catania, one of the vessels purchased in California, is about to start for the Atlantic, and will take a cargo of oil for Rio Janiero on its voyage to the other side of the continent.

Gasoline Demands and Prices.

Something of the importance of the gasoline industry is to be obtained from an editorial which appeared in the Commercial West. In California the gasoline question is a vital one to every oil man and to every man who uses a motor car or who has an internal combustion engine. The editorial says:

"With a substantial advance in the price of crude oil and a gain of 39 per cent in the cost of gasoline since last September, it is interesting to note the supply and demand position of these commodities, reviewing the factors which have caused the advances, and also the future outlook.

"In 1914 the world produced 381,508,916 barrels (of 42 gallons) of petroleum, according to the United States Geological Survey. Of this amount 248,446,130 barrels, or 10,434,741,660 gallons, were produced in the United States, making the United States the world's greatest producer with Russia second, with 60,935,482 barrels, and the remainder distributed between Galicia, Dutch East Indies, Roumania, India, Mexico, Japan, Peru, Germany, Canada and Italy in the order named.

"Now, while the production of petroleum is increasing (the United States in 1914 produced four times what it did in 1900), the world's consumption is gaining more rapidly than the supply. And to this, of course,—the law of supply and demand being as applicable to oil and its by-products as to grain—is accredited the recent substantial increase in prices.

"One of the latest scientific achievements affecting the supply of petroleum is the oil-driven battleship and ocean liner. This not only promises to revolutionize marine affairs, but increase oil consumption to an incalculable extent. All of the battleships of the American navy built in the last eight years use oil for fuel, and today oiling stations are replacing coaling stations.

"Gasoline production, however, cuts the biggest hole in the oil supply in this country. While the war in Europe has added to the demand, the big increase in consumption of gasoline is due to the wider use of the automobile in this country. Passenger and commercial cars manufactured and sold in the year ended June 20 last, in the United States, totaled more than 700,000, or one-third more than in the preceding year, according to official figures of the National Automobile Chamber of Commerce.

"Plans of the big automobile manufacturers for the 1915-16 season indicate an output of more than 1,000,000 cars in the 12 months ending June next.

"The official figures show close to 2,100,000 cars licensed in this country for 1915. It is figured that next summer the total will not be far from 2,750,000, allowing about 20 per cent. for the number of cars junked. In 1910 the licensed cars in the United States numbered only 425,000; in 1911, 564,000; in 1912, 848,000; in 1913, 1,191,000; in 1914, 1,500,000.

"The trade is agreed on an estimate of 500 gallons as the average yearly consumption per car. At that rate automobiles in use at the present are consuming gasoline to the extent of slightly more than a billion gallons a year. In 1910, taking the number of licensed cars, the gasoline used was only about 225,000,000 gallons.

"In addition, there must be taken into consideration the gasoline used in motor boating, which is becoming a big factor in the gasoline trade. No figures are available on this point, but it is known the development of motor boating in the last year or so has been more rapid than the early progress of automobiling.

"Furthermore, the heavy demand from Europe for gasoline for motor trucks, aeroplanes and fast motor patrol boats, has put an additional burden on American manufacturers. Exports in the last 12 months have grown to about 250,000,000 gallons.

"With the United States the world's greatest producer, the increasing world's usage of oil places this country in an enviable position, not only because of the profitable resource, but because it possesses one of the greatest factors upon which ocean-borne commerce and land transportation, through the advanced use of the motor car, will depend.

"Under such conditions with the demand unquestionably crowding the production, it is not surprising that much higher prices for both oil and gasoline are being freely predicted. Low grade Texas and Oklahoma crude oil has advanced 100 per cent. since last summer."

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The Land Withdrawal Issues

Secretary of the Interior, Franklin K. Lane, who obtains his information regarding conditions at first hand by becoming personally conversant with the properties about which he expresses an opinion, has made an exhaustive study of the oil situation in California, and after this personal investigation he has no hesitancy in saying that Congress should act promptly for the relief of the oil operators of California and Wyoming, who, he says, undoubtedly began their work of development under a mistaken view of the law. He goes on record as saying that if the government exercises its full rights in the matter it will bankrupt and do incalculable injury to many who have invested a total of millions of dollars in the industry. Reviewing the circumstances which led up to the actual development of the lands, Secretary Lane says:

"I shall not assume to say what policy should be followed as to the navy oil land reserves, but as to the other withdrawn lands I believe congress should so act as to recognize the equitable rights of those operators. This might be done by saying that those who would today be entitled to patent were the land not withdrawn may have leases under which they will pay a liberal royalty to the government.

"This plan will doubtless be urged. I am of the opinion that it is too liberal. We might draw a line at the time of the second withdrawal in 1910. If this were done leases could be made upon a royalty fixed

by congress to all who are actually operating upon the land at that time.

"I believe that this is one of those situations in the life of the individual and the state when it is not wise to exact all that the law allows, even as to those who are in the wrong."

This is the vital and live issue before congress today, so far as the oil men of California are concerned. At the present time there are above twenty equity suits pending in the District Courts of California against both individuals and corporations. Many of the defendants in these suits are financially weak and unable to go to the expense of making a winning fight against the government. This weakness is intensified by the action of the government in asking for receivers who will take charge of all operations and who will sequester the moneys received from the well production on the litigated lands.

No blame can be laid against the United States Department of Justice for bringing these suits, and for taking such action as it deems necessary to best conserve the government's interests in the lands. Naturally there is much displeasure expressed by those affected by the suits, those who see ruin staring them in the face. These suits now pending and others threatened have wrought havoc in the oil industry of California; they have ruined the credit of erstwhile solvent men and companies; they have caused banks to withhold loans that formerly would not be ques-

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tioned. It is not alone the actual loss of the productive power of the lands that is involved in these suits, but the credit and the ultimate possibility of payment of debts of hundreds of corporations and individuals.

The fault lies neither with the men who have gone on these lands and developed them in good faith, nor in the department of the government whose duty it is to see that the laws are obeyed. The fault lies with the laws themselves, which laws have been faulty from the beginning and which should now be so changed as to bring not only a remedy for future action but relief for those who have been devoting their time, energy and money to bringing life to a desert land.

Custom sometimes makes law and it would seem that a custom that had been in vogue for many years, and that had been sanctioned by the government, should have been recognized in shaping the laws governing petroleum lands. It had been the custom for years for eight men to file on a quarter section of petroleum land and then assign their interests to a corporation or an individual and then under the law develop the combined claims as one claim, obtaining patent therefor in due form after discovery of oil. This custom has always been recognized as right and proper and patents were issued when legal conditions were complied with. It was not until 1909 that this custom was questioned and then, in order to have no

doubt as to the legality of the patent a remedial bill was passed by Congress which covered the case and protected the claimants. This statute was placed on the books for the purpose of legalizing a custom that had come to be recognized as a law.

One of the greatest industries of the country is now threatened with destruction because of inadequate laws to protect it. We have no law that thoroughly covers the disposal or operation of oil lands. Oil men are honest as other business men. There can be no impugning of the integrity of the purpose that is behind the desire to have laws for the operation of oil lands. All the oil men of California ask of Congress is that it enact a law that will at once set at rest the litigation that now bids fair to destroy the industry. It is a situation that is threatening ruin and bankruptcy to many legitimate companies and to many honest individuals.

Under the care of the Oil Industry Association of California suitable bills are being prepared and these bills are just to both the government and to those who have honestly taken up the matter of developing the oil lands of the State. California is asking for nothing to which she is not entitled, and there is no effort on part of her people to have congress give them something that they have no claim upon.

The petroleum industry is greater than all of the rest of the mineral wealth of the state, and certainly deserves protection and development through governmental provision.

An Independent Producer's Side

The following question was asked an independent producer:

Is the Independent Oil Producer and Consumer receiving fair treatment from the great corporations owning transportation and holders of large acreage of oil producing territory?

This is his answer:

The prosperity brought to any nation, state or district from the bounteous gift of nature depends upon a fair distribution of the wealth derived, whether agricultural or mineral. In this connection we may well consider the Independent (or rather Dependent) producer with relation to the oil industry, representing as it does, double the value of the gold output of California and in the distribution of that value the unjust proportion he receives in the vast wealth thus represented.

For the last four or five years the price received by the independent oil producer from the corporations owning and controlling transportation has been less than the average cost of production. If the public will take note they will find that very few outside of those owning production and transportation ever declare any dividends; showing that the great wealth derived from the wonderful oil deposits of California is monopolized and adding its great wealth to the combined producing and transportation companies. The combination of production and transportation by pipe line creates a perfect monopoly, and while all corporations enjoying this combination are not classed as monopolies, they reap the benefit, as they only follow the prices established for crude oil by the great companies. The public has been taught that the price

paid by the consumer has been extremely low, yet with very few exceptions, has there been a time if the profit was fairly distributed that the price would have warranted a fair profit to the producer.

The Standard Oil Company of California, with a capitalization of fifty million dollars from an investment of thirty-five million, some five or six months ago had a value from stock quotations of one hundred twenty millions. Within the last four months the advanced price of 5 cents per gallon charged the public for the by-products of oil, has given an added value of crude of at least \$1.00 per barrel. They are using the press, calling the attention of the consumer to the increased cost of oil, charging the same to the 10 cent increase they are paying for a barrel of crude oil and warning the public that the effort being made to prevent the drilling on Government lands in dispute may so curtail production that it will compel the cost to go much higher.

Realizing the deplorable condition of the Independent producer as a class, justice would demand that a fair part should go to that source. However, the price of crude has gone up but 10 cents per barrel, and while producers realize the injustice of this small and unwarranted increased figure, they are helpless and can only receive what the purchasing companies will give.

Throughout all oil fields of the United States, with the exception of California, there is now a much better situation from the standpoint of the oil producer. In the east in some oil fields the price has advanced 200 per cent. As the draft from California stocks now amounts to One Million barrels per month, the inquiry

often comes—Why is there not a stronger advance here? The only answer to this inquiry is monopoly owning production and transportation. While at the present time they are drawing the enormous amount of one million barrels per month from stock, it gives no fear of monopoly, as they are allowed by law to produce oil in competition with the Independent producer, and so seek to maintain so large an output of crude oil that a fair price cannot be had by the small operator.

While a Common Carrier Pipe Line law was enacted nearly three years ago in California, it has never become a law, it being contested by the Southern Pacific Railroad; and notwithstanding the decision of the United States Supreme Court, sustaining the constitutionality of such law, the Supreme Court of the State of California has refrained from giving California producers the benefit of that decision, although it has been in their jurisdiction for nearly two years.

The Independent coal mine owners many years ago, realizing the impossibility of competing with railroads owning and operating coal mines, implored Congress to enact a law denying the right of Common Carrier Railroads to produce coal only for their own use. This was made the law and the railroads were given two years in which to dispose of coal mines. It would seem impossible for the Supreme Court of California to withhold this decision much longer, and when rendered, making Pipe Lines common carriers, would it not be fair to ask Congress to remove the word "Railroad" from the Common Carrier law, thus including pipe lines, and to give the owners of pipe lines a fair length of time to dispose of their holdings and depend upon the natural law of supply and demand to make the price for producer and consumer, and thus destroy the monopolies that are acquiring all the benefit from this great natural resource?

Says Oil Laws Are Inadequate.

One of the most interesting bulletins recently issued has come from the Los Angeles Chamber of Commerce, in which it claims that the laws of the United States regulating and governing the oil industry are insufficient. The bulletin says in part:

"The chief cause of the unfortunate condition in the oil industry today is due to the fact that the United States has never had laws specifically applicable to the location and development of oil on the public domain. Prospectors have been permitted to locate oil land under the placer mining laws, which were only partly suited to the acquisition of oil lands.

"A wise policy would give to the oil men their developed lands just as before September 27, 1909, the government would have promptly patented to an oil miner the quarter section of land on which he made his discovery. As a temporary withdrawal the order of September 27, 1909, has more than served its purpose. It was never contemplated that it should cause the distress and ruin which is following in its wake. As a conservation measure it can accomplish no more. If strictly enforced it can only be a weapon of destruction and damage. It is being made the basis of a vast and ruinous and costly litigation.

The men who created the valuable oil fields of the San Joaquin Valley are entitled to be relieved of such a useless burden and to just treatment. Each company or operator should receive patent for every quarter

section on which work has been made or on which work has been continuously and diligently performed since the date when Congress first prescribed continuous work as a necessary condition to patent."

Midwest Gets the Grey Bull.

It is announced in Denver that the Midwest Refining Company has acquired a heavy interest in the Grey Bull Refining Company, of Grey Bull, Wyoming. The Grey Bull owns a daily production of 1,500 barrels of oil running 50 per cent gasoline. The company also owns a refinery at Grey Bull with a capacity of 3,000 barrels daily, and purchases crude oil from Grass Creek and Elk Basin fields. The new deal puts the sale of the products of this refinery in the hands of the Midwest Company.

It is estimated that on the present basis of operations the Midwest Refining Company's interest in this property will increase its earning about 2 per cent per annum on its \$18,000,000 capital stock.

The United States Circuit Court of Appeals has upheld the order of District Judge Dooling in the appointment of a receiver for the El Dora Oil Company. The appeal was taken to test Judge Dooling's jurisdiction.

The Kern Trading and Oil Company has entered upon an active campaign of development in the Midway district.

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Manufacturers Hard Hit

From the California Industries Magazine

A large portion of the oil-producing interests of California is facing an imminent ruin today. A ruin that is complete. A ruin that is far-reaching; that will have its effect on every man, woman and child on the Pacific Coast and upon every business or line of endeavor, inflicting injury right and left in direct ratio to the greatness of the purchasing power of the firm or individual involved.

Briefly, it is a move by the government to confiscate nearly 30 per cent of the producing oil property of California.

Just stop and take that down like slow medicine. Think what 30 per cent of the oil production means. Consider how the manufacturer is going to have to shoulder one more item of increased cost.

The greatest industry in California today is the oil industry. There is no other than can equal it. It produces more wealth annually by five times than the value of the total gold production, and this State produces more gold than any State in the Union. So 30 per cent of the oil-producing properties would be like wiping out the gold production of \$20,000,000 the year, and then some.

The oil men are in dire straits. They are in need of

the help of all interests on the Pacific Coast, since this whole section loses when they lose. Lands which have been developed into producers at gigantic costs that attend all prospecting and oil development work are about to be seized by the Government on the flimsiest kind of technical justification.

California oil lands that are in jeopardy comprise some 35,000 acres, valued at \$300,000,000 in the heart of the Midway district—the richest section in the State. This seizure is not for purposes of continued operation, but means the practical abandonment of the working of the properties. More than 250 independent oil producers will be swept into bankruptcy by the act; not a cent will they realize from their investments, not a cent will they recover from the equipments and improvements that have been put in. And how about the 30,000 odd stockholders, for the most part persons in moderate means, now enjoying returns on the investment of their savings? They stand to lose their all by the same act of dispossession that the Government is putting into effect.

The Government's case is based on the claim that in September of 1909, President Taft issued an order withdrawing certain lands from public entry. The



Rivers and Harbors Committee, Washington, D. C., Passing Through Standard Oil Properties at Richmond

Government claims that these oil properties were affected. On the other hand the Government admits that the lands had been already laid claim to and located under the placer mining act by the present title holders, and it is notorious that placer miners have been getting title to lands in this way without hindrance, and that it is the only way in which oil miners can get hold of public lands under the present mining laws.

The Government does not allege fraud, does not allege irregular procedure. Secretary of the Interior Franklin K. Lane has admitted that the claims of the oil men are just and honest. It is simply a case of the Government forcing a technical point—the question of whether the claimants were actually working or not on the day of the promulgation of the Taft withdrawal order.

If the Government takes advantage of a recent favorable Supreme Court decision—three judges dissenting—it will invoke receivership proceedings against all of the claimants and put them completely out of business.

This will have an immediate effect upon the oil and by-product industry of California. Already the actions of the Government have resulted in a falling off in oil production of 1,000,000 barrels in one month. The producers can't afford to take a chance, for the Government threatens to have them make good all the oil extracted heretofore. The large oil interests that have been buying from the Independents will find themselves facing a shortage in oil supply. The immediate result of this will be a raise in price. Already fuel oil has gone up 10 per cent and gasoline 25 per cent as the result of the Government's activities.

This brings the issue down to the manufacturer and large user of fuel oil. If these independent companies, that entered into original possession of the lands at the express invitation of the Government, stop producing oil the manufacturer is going to have to pay an increased rate for fuel oil. The automobile user will bear the tax in the shape of higher-priced gasoline and lubricants, and so on down the line.

Meanwhile some of the finest of the State's industries those engaged in the manufacture of by-products of crude oil, and there are innumerable by-products, are going to suffer by the decrease in production. This is bound to be the case because the lands in question produce 50 per cent of the California refining oil, or 28 per cent of all oil of every class produced.

The Oil Industry Association, with headquarters in San Francisco, is presenting the case of the oil men in Washington. It is showing the injustice of the seizures and it is asking that Congress relieve the situation by some direct remedial legislation. The association is asking that those oil companies that had complied with the locating requirements prior to the Taft order and that had honestly proved up on their properties, be given patent and title to their property.

In the interest of all other California Home Industries, it is to be hoped that business men and manufacturers will aid the oil men in preventing confiscation of their property.

Big New Company Formed.

Directors have been chosen and advance made in the organization of California's new and big petroleum project, the \$100,000,000 Pan-American Petroleum and Transport Company, formation of which was announced some time ago by E. L. Doheny. The Company will be strictly a California Corporation.

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PROTECTING OIL FIELDS FROM INFILTRATING WATER

By R. P. McLAUGHLIN
State Oil and Gas Supervisor

In most branches of the mining industry, it is a well-recognized fact that care must be taken to protect the mineral deposit from undue physical injury. It is comparatively easy to grasp this idea when the mineral is a solid and the lives of workmen depend directly upon the care with which it is removed from its natural position, but when the product is a liquid drawn up from pools several thousand feet beneath the surface of the ground through openings only a few inches in diameter, it requires some imagination to picture underground conditions and the changes which must often occur. The development of the petroleum deposits of California has been attended by numerous accidents, the results of which are readily noticed at the top of the wells and in the profit and loss accounts of the operators. Determination of the cause of these accidents has been the subject of considerable study, which naturally has fallen upon men familiar with technical methods.

The greatest damage to the oil deposits of California has resulted from water finding its way into the oil-bearing sands, and it is the purpose of this paper to set forth briefly this phase of the oil industry. Much of the material here presented has previously appeared in publications issued by the California State Mining Bureau, which, under the direction of State Mineralogist Fletcher McN. Hamilton, has investigated the subject and taken steps toward improvement of conditions. The writer, having been in charge of this branch of the Bureau work, has gained considerable knowledge of existing conditions.

Generally speaking, the oil-bearing formations of California are soft, unconsolidated sand beds, separated by clay strata, which are also soft. Some of the sand beds carry water instead of oil. All of the beds are more or less separated, probably being of lenticular shape. Very few of the beds in the oil fields lie flat or undisturbed over any great area. Folding and tilting are common, and faulting also occurs in some of the fields. The accumulation of oil is not confined to any single structural feature, such as the anticline, but occurs in many other structural features. Water-bearing strata occur in practically every oil field in the State. Complete data are not at

hand for a comparison of the damage done in the various fields. These water sands are sometimes above, below, and between the oil sands. When water and oil sands are both penetrated by a well, the water enters the oil sand. The water frequently forces the oil back into the sand so that pumping produces nothing but water. The water not only damages the well which it first enters, but affects neighboring wells, causing their product to become partly or entirely water. The probability of such damage is usually foreseen. The method of preventing damage from this source is to insert screw pipe (or casing) into the well. It serves as the lining or wall of the well, and if carried through and below the water sand and firmly landed in some sort of impervious stratum, such as clay, it prevents the water from leaking down into the well. Sometimes it is necessary to pump cement in behind the casing in order to seal thoroughly the passages down which the water might otherwise run. Several such lines (or strings) of casing are sometimes placed inside the first one until together they resemble a telescope with the small end at the bottom of the well, in the oil sand.

The protection of a well from water intrusion comprises two operations: First, determining where the casing should be landed; and, second, the actual work of placing the casing in the well in a workman-like manner. These operations are interdependent, and either is useless without the other.

Some idea of the financial loss of the oil operator, when water is not controlled, may be had from the following instances:

In the Coalinga field on a certain property is a well 2,700 feet deep. It was drilled three or four years ago at a cost of \$30,000. Initial production was over 200 barrels of oil per day and the total production about 100,000 barrels of oil, giving a profit of possibly \$10,000 over regular operating expenses, but not including the cost of the well. About two years ago water stopped this production entirely. The owners are financially unable to repair the well at present, and each day adds to the damage being done to surrounding property.

In a portion of the Midway-Sunset field there are

two known oil sands, both productive. There are water-bearing sands above the upper oil sand and also between the two oil sands. When a well is drilled into the lower sand two extra strings of casing (about 2,000 feet of 8-inch and 2,500 feet of 6-inch) should be inserted to keep the water out of the upper sand. The expense for extra casing and labor may amount to \$10,000 per well. Some operators have neglected or refused to protect their wells in this manner, which has resulted in serious damage to the wells of other operators which depend upon the upper sand, because they are of too small diameter to allow deeper drilling.

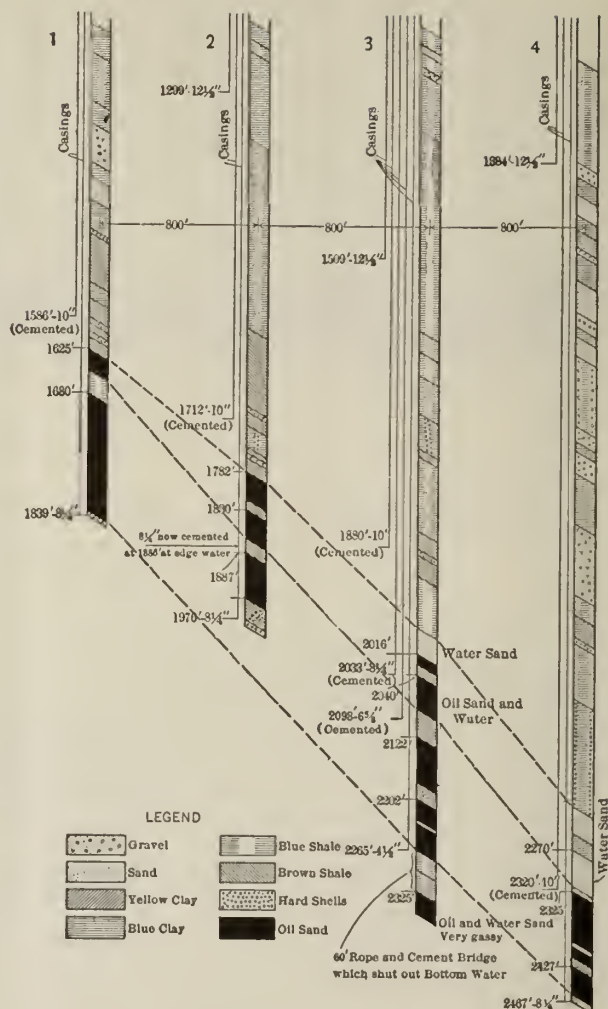
An approximate idea of the ultimate loss that will ensue, unless the top sand is protected, may be gained from the following figures: A single well, at present producing, has during three and a half years produced almost 300,000 barrels of oil. Other wells, though not so large, should produce for a much longer time than three and a half years, and 300,000 barrels each is not an unreasonable estimate of their total production. The upper sand extends over about 400 acres, and at 5 acres per well should supply 80 wells, or a total of not less than 24,000,000 barrels, or \$12,000,000.

A minor instance which came under notice is typical of much inefficient work that has been done. A superintendent, who had previously finished several wells satisfactorily with advice from a geologist, proceeded without such advice and drilled another well too far through the oil sand and encountered a strong flow of water. This "bottom water" was encountered within 2 feet of where it had been expected by the geologist, from his study of logs of surrounding wells. Advice would have been to stop drilling about 15 feet above the point to which it was carried. A contractor was engaged to cement the bottom of the hole after the flow of water had been checked by a "bridge." Even if the first cementing operation proved successful, the needless expense on this well probably amounted to about \$500. The chief aim of the geologist or engineer is to meet such circumstances in time to prevent trouble, rather than to aid in patching up improperly drilled wells, which procedure is, at best, apt to be troublesome and unsatisfactory.

It must be borne in mind, of course, that the natural oil reservoirs are exhaustible and as the oil is removed water is apt to take its place. Some operators are prone to assume that the presence of water in an oil well is perfectly natural and that infiltration could not have been avoided. It has been proved that this hypothesis is not always correct, for in many cases where water has appeared, the correction of faulty material or workmanship has caused the water to disappear.

There are at least three causes for water entering oil wells: (1) failure of casing, (2) faulty drilling operation, and (3) natural replacement of oil by water as the oil is pumped out. There are also combinations and variations of these causes, modified and accelerated by movements of the ground itself.

A sketch of the bottom of four wells in the Coalinga field illustrates some of the underground conditions and the methods of recording and presenting the data. The wells were drilled in order as numbered. The strata are not bent or deformed in this particular locality. In each well the 10-inch casing was intended to shut off the water occurring above the oil sands, and in well No. 3 it was landed at a depth of 1,880 feet, in conformity with successful results at No. 1



and No. 2. However, the sand between 1,980 and 2,016 feet was found to contain some oil and considerable water, hence it was necessary to use more casing to shut off this water. Since some experimenting was necessary, two strings, the 8 1/4 inch at 2,033 feet and the 6 5/8 inch at 2,098 feet, were used. Had all conditions been known beforehand only one string would have been necessary, but when the 8 1/4-inch casing was landed and the well drilled deeper more water was encountered and the 6 5/8-inch casing had to be used. The final oil string of casing, 4 1/2 inches in diameter, was carried to 2,351 feet and upon testing, the well was found to produce mostly water, so the bottom was plugged (using waste, rope, iron lathe cuttings and cement) up to 2,265 feet and the well again tested, when it was found to be free from water.

Since well No. 3 was one of the first wells in this locality to encounter water in the oil sands, where oil was expected, careful work was necessary on the next well drilled, to check the operations. This was done on neighboring wells, and since similar results were found, when well No. 4 was drilled the top sands were shut off with the 10-inch casing at 2,320 feet. The well was drilled to 2,467 feet only, so as not to encounter the sand which contained water in well No. 3 between the 2,325 and 2,351 foot level.

After completion, all these wells produced clean oil

for about a year, and then the No. 2 began to show a little water, and about three months later showed about 80 per cent. There were three possible sources of the water: From other wells through the oil sand, or from above the oil sand, or from the bottom sands penetrated. The drawing shows that the possibility of bottom water was slight. The possibility of water from above was tested by removing the 8¼-inch "oil string," putting a "bridge" or plug in the open hole between the bottom of the 10-inch "water string" and the top of the oil sand. After bailing the well dry above the plug no water came in, proving that the "water string" was not leaking at any point and was effectively excluding upper water. Therefore the water in No. 2 was probably coming through the oil sand itself, and as the same sand showed both oil and water between 1,980 feet and 2,095 feet in No. 3 it was concluded that the water was rising along the dip of that sand as the oil was removed. Such a movement is called the encroachment of "edge water." The 8¼-inch casing was again put in and cemented at 1,886 feet in the shale presumed to correspond to that found at 2,091 to 2,122 feet in well No. 3, and 2,318 to 2,315 feet in well No. 4. After pumping the well for about ten days, the oil was found to contain less than 1 per cent water, proving that water had been coming through the upper sands, between 1,782 and 1,870 feet. After about four years the water has commenced to show in well No. 1. This movement naturally follows the removal of oil and cannot be stopped, but the particular sand affected can be kept separated from other productive sands.

As in all other important industries involving the winning of some mineral product from the earth, a thorough plan should be mapped out, and followed or revised in the light of new developments. In other words, there should be a thorough geologic investigation. Some large operators realize this and have facilities for thorough geologic work at all times. Other large concerns give but little attention to the subject. Probably the oil industry is in this respect not so well managed as the metal-mining industry. Small operators frequently feel that they cannot afford the expense of geologic work.

Several hundred oil companies are operating in California and in the past no concerted effort has been made by them to develop their lands systematically or to control the water trouble. Constant agitation of the subject has resulted in the passage of a law (Chapter 718, Statutes of 1915) framed by the State Mining Bureau, at the invitation and with the assistance of many oil operators. The law became effective August 8, 1915. As it is along original lines, a brief outline may be interesting, together with some remarks upon the aims of its sponsors.

The law gives the State Mining Bureau supervision over this work, the expense being met by assessments upon the producers. The work is directed by an officer designated as State Oil and Gas Supervisor, who appoints four deputies; all of these officials must be either engineers or geologists. The Supervisor's headquarters will be at the State Mining Bureau in San Francisco and the deputies will reside in the various oil fields. Operators are required to file all records of work done on wells and other pertinent information. The records are to be considered as confidential unless released by the operator furnishing them. The Supervisor is empowered to order repair

work done on wells and if it is not done he can place agents on the ground to do the work. The cost of the repair work becomes a lien upon the property. Abuse of power by the Supervisor is prevented by making his orders subject to review and reversal by an arbitration board appointed by operators.

The law is rather lengthy and explicit, but no rigid construction can be expected to solve such varied problems as exist in our various oil fields. It is believed that operators generally will co-operate with the officials in the endeavor to make the law fit economic and physical conditions.

The underlying purpose of the framers of the law was to establish a technical department that would gather all the facts and present conclusions to those having charge of drilling operations. In other words, it is hoped that the department will fill the place of a consulting engineer. The need of such a position has been recognized by some operators in their own private organization, while others have not realized its value or have been unable to bear its expense. It is therefore evident that the first work of the State Mining Bureau must be educative. Every man engaged in the work must primarily be able to touch the chord of human interest and present the technical facts to his audience, the operators, in such a fashion that they can see the subject as clearly as he does. Technical workers have frequently complained that their work is not given proper recognition by the public and in many cases this has been due to the fact that no effort was made to grasp the thread of public thought on that special subject and turn it into the proper channels. The legislation here considered presents one of the best opportunities for those administering it to demonstrate whether or not technical men are able to take hold of a large problem and present it in intelligible form to men not technically educated but thoroughly skilled in drilling deep and difficult wells.

Not alone to the oil operators, but also to the public which is interested in conservation of the oil, as well as all other natural resources, is the Bureau under obligation to solve the problem outlined in this paper. California drillers have already proved their ability to cope successfully with the most severe physical conditions and will undoubtedly be found willing to assist the engineer who now has an opportunity to demonstrate his usefulness.

Vacuum Oil to Hold Special Meeting.

In connection with its annual meeting on February 29th, the Vacuum Oil Company will hold a special stockholders' meeting to vote on amending the company's articles of incorporation. The changes to be made are merely technical to cover business expansion. There is no provision in the present charter to permit the company to own or operate a fleet of ships for the distribution of its products. This, and the right to manufacture containers, together with other general powers necessary to the company's expanding trade, will be provided for in the charter amendments.

Sunk by a Submarine.

The British tank steamer, *El Zorro*, owned and operated by the Lobitos Oilfields, Limited, a British company operating in Peru, and formerly exporting its oil to California, was sunk by a German submarine during the last week of December.

UNITED STATES PETROLEUM PRODUCTION

In a most comprehensive article on the petroleum production of the United States, the Mining and Engineering World, of Chicago, has one of the most complete summaries of the situation that has been printed. The following gives the resume of that paper for the various regions:

APPALACHIAN RANGE

In the classic fields of the Appalachian province development was for the most part of routine character. The bulk of the field activity consisted as usual in keeping the old wells producing to capacity by cleaning, deepening to lower "sands," or plugging back to neglected "sands," and in the occasional completion of a new well where lease conditions would permit. Many wells that could be profitably operated with oil at \$2.50 a barrel were plugged and abandoned as a result of the low prices for oil in the latter part of 1914 and the greater part of 1915.

In Pennsylvania the drilling of a well on the Lutheran Church lot at Evans City, Butler county, and its completion as a 125-bbl. producer in the third sand in May, was the signal for a frantic town-lot development that resulted in the rapid exhaustion of a small pool of oil, overlooked in the development of the region 40 years ago.

Near East McKeesport in Allegheny county a gas well estimated at 45,000,000 cu. ft. open flow was completed on the Spiegel farm in July and furnished an incentive for additional drilling that was attended with indifferent success.

The old Dorseyville field, an Indiana township, Allegheny county, was extended to the north and east in the last half of the year as the result of promising discoveries of oil in the 30-ft. sand late in June.

Little of interest developed in the West Virginia fields in 1915. The pool on Cabin Creek, Kanawha county, opened late in 1914, furnished a number of good wells but attracted little attention because of the fact that the discovery was well protected by acreage in the control of a single company.

The return of Tennessee to the ranks of the oil-producing states comprised a feature of much interest in the Appalachian region. In April the Whitecomb Oil Co. successfully completed a 50-bbl. well at a depth of 1700 ft. (pay "sand" at 945 ft.) on the Toomey farm 4 miles northwest of Oneida, Scott county, near the Kentucky boundary. At the end of the year the "Oneida field" was credited with more than six active oil wells and Tennessee's place among the oil-producing states was assured. The discovery of a 30-bbl. well in the old Irvine field, Estill county, Kentucky, aroused considerable interest in development work in that locality late in the year.

LIMA-INDIANA

The "Trenton-rock" fields in western Ohio and eastern Indiana maintained a nominal activity in which the plugging of abandoned wells was more of a feature than the completion of new ones. Interest was well sustained in the area adjacent to Tiffin, Seneca county, Ohio, where a number of excellent oil wells were completed on the Seneca County Infirmary Farm. The Petroleum output in this division recorded the usual decline. At Cleveland, Ohio, the natural gas boom that featured 1914, gradually subsided without the discovery of an important oil pool,

though the oil output of a few isolated wells amounted to nearly 500 bbls. in the month of November.

ILLINOIS

With no new pools to its credit in 1915 the output of petroleum in Illinois recorded a decline which adversely affected the rank of the state as a contributor to the petroleum output of the United States. In southeastern Illinois the "shallow-sand" field of Clark, Cumberland, Coles and Edgar counties and the "deep sand" fields of Crawford and Lawrence counties failed to show productive extension of sufficient value to retard the normal decline in output of the older portions of the fields. In Wabash county a wildcat well reported good for 8 bbls. of oil, completed early in December, 3 miles southwest of the Allendale pool, furnished an incentive for further drilling in what may prove to be a new pool. The Colmar field, McDonough county, in the western part of the state, was extended to the southwest in July by the discovery of a 150-bbl. well on the Hamm farm in Sec. 19, Lamoine township, but efforts to extend the productive area still farther west into St. Mary's township, Hancock county, were unsuccessful.

Operations on the "Staunton dome" in Macoupin county, resulted, early in June, in the opening of a prolific gas field about 4 miles southwest of Staunton in Dorchester township. Development work was, however, considerably retarded by litigation between the oil and coal companies whose interests conflicted in this locality. Activity was slight in the Sandoval pool, Marion county, and in the Carlyle pool, Clinton county. Unsuccessful tests of interest were drilled near Hillsboro, Montgomery county and at Rushville, Shelby county, in areas of apparently favorable geologic structure.

MID-CONTINENT REGION

Field activity in other parts of the Mid-Continent region was subordinate to that at Cushing, Okla., during the first half of the year, but the subsequent rapid decline of this prolific pool incited exploration and development in other parts of this division. During the last 3 months of 1915, the Healdton pool in Carter county received much attention as a result of which its daily output was increased from about 25,000 bbls. to 75,000 bbls., and it displayed signs of becoming an able successor to Cushing. The completion of a 700-bbl. oil well of a wildcat test on the Alberti farm 5 miles northeast of Blackwell in Kay county on July 24 is believed to indicate the presence of an important pool of oil and gas on the Blackwell anticline. The depth at which the principal sand was reported, 3,350 to 3,385 ft., in this well had prevented the completion of other tests in the locality up to December 24. Other localities in Oklahoma that furnished evidence of developing oil pools of consequence in 1915 were Vera, Washington county; South Coffeyville, Nowata county; Stone Bluff, Wagoner county; Holdenville, Hughes county, and the Fox lease 4½ miles south of the Cushing field in western Creek county.

KANSAS

In Kansas active development centered in the Augusta pool, Butler county, and was mostly for gas although a few wells resulted. In October a wildcat test near El Dorado in the same county yielded

a promising flow of oil but the extent of the productive area had not been proved to the end of the year. The various pools in Chautauqua, Montgomery, Franklin and Miami counties displayed only nominal activity.

NORTHWESTERN LOUISIANA

Aside from the interest created by the drilling in of a few good gas wells near the city of Shreveport no developments of consequence took place in the Caddo district. Early in 1915, tests on the east side of Red River, east of the Abington pool in Red River parish, proved the presence of an important oil and gas field in the vicinity of Crichton, and throughout the year this new pool supported an active development that is responsible in a large degree for the notable increase in the state's output of oil.

DISCOVERIES IN NORTHERN TEXAS

Interest in the Panhandle region was centered at Strawn, Palo Pinto county, where oil was discovered on January 14, at a depth of 835 ft. in a well drilled for gas by the Texas & Pacific Coal Co. on its extensive holdings in that locality. The shallow depth proved an attractive feature and before the end of the year the Strawn field had more than 75 oil and gas wells and was credited with an output of oil estimated at more than 250 bbls. a day.

In the south-central part of the state an oil field of small area was developed at Thrall in Williamson county as a result of a wildcat test completed at a depth of about 850 ft. on February 21. The accumulation of the oil in this field in porous rock of igneous origin intruded into a succession of impervious shales and marls is unique, no similar type of oil occurrence being known in the United States.

Eight miles south of San Antonio a 65-bbl. well completed September 2, opened a new field in Bexar country, the importance of which remained undetermined to the end of 1915. Tests on the Schuernberg farm 8 miles south of Brenham, Washington county, yielded sufficient oil to justify considerable activity in that locality in October and succeeding months.

GULF COAST

Among the coastal pools of Texas and Louisiana, Humble in the former state easily retained its rank of first in activity and in production. Interest was centered in the Stevenson and Landslide lease southeast of the old field where a number of gusher wells penetrating the deep sands increased the output of the field from 35,000 bbls. a day in August to 75,000 bbls. a day in October and November. Unsuccessful attempts were made to extend the productive area of the Sourlake field to the north and to the west. In the Saratoga, Batson, Goose Creek and Markham pools no developments of consequence were reported. At Spindletop the deep test west of the old development begun by the Gulf Production Co. in November, 1914, was completed on June 9, 1915, at a depth of 4720 ft. without a discovery of oil or gas in paying quantities.

In Louisiana the Edgerly pool supported a nominal activity without notable extensions of the productive area. Vinton was extended toward the south in July. Jennings, Welch and Anse le Butte were featureless.

WYOMING AND MONTANA

The petroleum output of Wyoming was materially increased in 1915 as the result of the completion of a 6-in. gravity pipe line by the Illinois Oil Co. from the Grass Creek field in Hot Springs county to the Burlington railroad at Chatham and of the opening in

September of a prolific southwestward extension of the old Greybull field on town lots in the city of Greybull, Bighorn county. A monster gas well estimated at 20,000,000 cu. ft. capacity, open flow, was brought in on the Byron anticline in northwestern Bighorn county late in September.

The most important developments of the year in Wyoming was the opening of a new field on the Silvertip anticline in northeastern Park county along the Montana boundary. The first well in this field was located in Sec. 1, T. 58 N., R. 100 W., of the 6th Principal Meridian and was completed in November at a reported depth of 1100 ft. The initial flow was estimated at 400 bbls. A number of equally good wells were completed on this field before the end of the year not only in Wyoming but across the state boundary in Carbon county, Montana, as well.

In Fremont county, Wyoming, activity in the fuel-oil field, opened in 1914 near Lander, was revived late in 1915 and three productive wells were completed before the end of the year.

At Havre, Hill county, Montana, additional tests inspired by the moderate flows of gas obtained in 1914 resulted in the completion of one well east of the city in November which was estimated to be capable of yielding 15,000,000 cu. ft. of gas a day. Distribution of this gas to consumers in Havre was commenced before the end of the year.

DECLINE IN CALIFORNIA

In marked contrast to the reviews of the petroleum situation in California in the last 9 years that for 1915 records a decline in output and a year devoid of spectacular features. As a result of the overproduction of petroleum in 1914, field activity in California was reduced to the lowest practicable minimum in 1915.

In the Midway-Sunset district the last of the big gushers (the Miocene No. 2) inherited from 1914, ceased flowing in March and from that time to the end of 1915 no wells of corresponding size were completed.

North of McKittrick in Sec. 35, T. 27 S., R. 20 E. of the Mount Diablo Meridian, a new field of 35-degree Baume oil was opened by well No. 4 of the Belridge Oil Co., which was completed April 8 at a reported depth of 4,000 ft. Other wells were started in the adjoining sections but the extent and value of the field remained unproved at the end of 1915.

At Coalinga the deepening of the old well in the white-oil district adjacent to Oil City in December was attended with such favorable results that a revival of activity in this area is assured.

The old fields south of the Tehachipi range displayed more activity in 1915 than the San Joaquin Valley fields. In the Coyote Hills north of Fullerton a number of flowing wells were completed and to the northeast of LaHabra valley near Brea and Placentia developments were equally successful though retarded considerably in the latter district by water troubles. A small refinery began operations at Fillmore, Ventura county, in September.

OTHER STATES

In Colorado wildcat activity in a number of localities failed to discover oil and the state's production continued to be derived from the declining Florence, Boulder and Rangely fields. No production was reported from Utah. Tests in Washington, Oregon, Arizona and on the "eastern shore" of Maryland failed to justify the hopes of the drilling companies.

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

Nichols Admits Mistake.

Allen G. Nichols, the Government expert witness in the oil land suits, whose veracity was impeached by the defense because he was indicted for the misuse of mails, admitted on the stand that he had made a "mistake" in his direct testimony. Much of Nichols' testimony was reinforced by photographs which he claimed represented conditions in certain parts of the oil fields. On cross examination by the attorney for the Southern Pacific he was compelled to admit that he had given the wrong location to several of these photographs. A particular instance were photographs of seepage of oil said to be taken miles apart. He admitted that the photographs were of the same seepage taken at different times of the day.

It looks very much as if his was a case for the investigation of the Federal Grand Jury.

Work of the Submarines.

A comparison can now be made as to the number of steamers sunk by submarines during last year, which furnishes an interesting commentary to the losses sustained by British shipping compared with that of other nations, says London "Fairplay." During 1915, 209 British steamers were sunk, while the number of sunken steamers owned by other nations was 109. In the case of those sunk in the Mediterranean the total for British steamers was 48 boats, compared with 36 boats owned by other nations. When the enormous preponderance of British shipping on the high seas is considered it must be admitted that the British mercantile marine has not suffered in the proportion which the German Admiralty both prophesied and confidently expected. In the case of large sailing vessels only 3 British ships were sunk, compared with 26 ships of other nations.

Pierce Oil Denies Politics.

An official of the Pierce Oil Corporation has made a public statement that in its thirty-eight years of exist-

ence in Mexico it has never taken any part in politics in that country, nor has it directly or indirectly contributed to or aided any faction during the recent revolutions. During the past four years its business in Mexico has been greatly disturbed by the unsettled conditions and interruption of transportation, but recently the conditions have improved and the business of the corporation has increased. All the properties of the Pierce Oil Corporation in Mexico are intact and its refineries at Vera Cruz are running to full capacity. Development of its oil territory near Tampico has been resumed and is being continued without interruption. The Tampico refinery is being enlarged to care for the increased production.

Oil Lands in Demand.

A report comes from Ventura to the effect that thousands of acres of land in that part of California have been quietly leased by prominent oil people who desire to do development work. The striking of a flowing well on the Lloyd tract has started much interest in this district and a number of well-versed men from the Santa Maria and other districts are now looking the field over. A lease has been given on the lands of two prominent owners with holdings near the property of the Consolidated Oil Company which struck the gusher.

Much of the difficulty in securing prospective and untried properties comes from the desire of owners of worthless land to hold for extraordinarily high prices, with the result that little development of new country will come out of the increased interest unless these owners are willing to do their part in the development chances.

St. Clair Appeals to the People.

L. P. St. Clair, president of the Independent Oil Producers Agency of California, has issued an address to the people of the state asking them to lend any assistance in their power to the oil operators on the public domain who are now seeking remedial legislation at the hands of Congress, regarding the lands involved in the Taft withdrawal order.

Mr. St. Clair combats the assertion of Attorney General Gregory that the oil men are trespassers, and shows how they were invited by the Government to undertake the development of oil land just as miners all over the country were invited to develop mineral land, and just as agricultural settlers were urged to develop the great West.

According to the calculations of Mr. St. Clair the oil production of California will be reduced by at least one-third if the present policy of the Government is carried out.

Associated Makes Queer Statement.

According to the preliminary statement issued by the Associated Oil Company for its 1915 business, there seems to be a wide discrepancy between its ostensible income and what it has expended. The statement reports total receipts from operating revenues, interest accounts and dividends on investments amounting to \$4,966,722. From this there were deductions for taxes, interest on bonds, depreciation, amortization and other items, amounting to \$3,048,786, leaving a net income, according to the statement, of \$1,918,003. Of this \$1,789,095 was paid to the stockholders in dividends, leaving a net surplus of \$128,908.

That is good as far as it goes, but President Sproul, in his annual report, tells the stockholders that during the year the outstanding debt was reduced \$2,850,000 through contributions to the sinking fund and by direct purchase. In addition to this \$1,045,189 was spent in improvements of the properties. The question naturally arises: Where did all this money come from if the total receipts were only a little more than \$4,000,000?

Industrial Uses of Fuel Oil.

The DERRICK is a strong believer in the use of Petroleum as fuel and is always pleased to see any new effort to bring this product to the position of recognition where it rightly belongs. It is with this feeling that we notice the publication by the Technical Publishing Company, of San Francisco, of a book entitled "Industrial Uses of Fuel Oil," written by F. S. Dunn.

In his preface the author says the book is intended as a practical exposition of the use of fuel oil for industrial purposes, and he certainly has not fallen short of his intentions. He gives brief descriptions of many of the processes, showing by illustration the various burners and applications. It is useful for architect and engineer, as well as the fuel oil salesman, for it gives all the points that should be known by all of these in their desire for information.

Of especial value to engineers is the chapter on "Tests and Furnace Efficiency." It teaches how to check boiler losses, and how true efficiency may be determined.

The book can be obtained direct from the Technical Publishing Co., in the Crossley Building, San Francisco.

Killing "General Gloom."

According to the enthusiastic, if a little hysterical, boosters of the country, General Gloom, who has commanded the adverse forces for the past several years, is dead, and his body is being brought to San Francisco to be buried far out in the deep, deep sea.

It was in Syracuse, New York, that the idea started, and sundry experts in the publicity game saw possibilities of free advertising by holding ceremonies over the body of the old General. The result was that after these Syracusans killed General Gloom they had no fit place to bury him. Ground would not hold him, so a bright idea was evolved and arrangements were made to ship the hammer-shaped body across the country and lay it to its final rest under many fathoms of the blue Pacific.

And now the funeral cortege is on its way. It will be received officially in California at Fresno on February 15th, and then, after visiting various important cities of the State, will arrive in San Francisco on the afternoon of Washington's Birthday, and here the final ceremonies will be held.

It is said by those who have the matter in charge that our past Portola Days, and all the other magnificent celebrations which have made San Francisco famous, will fade into insignificance beside the gorgeousness of the funeral of General Gloom. There will be the usual pomp and parade and then there will be speeches, of course. Tango Jim, our versatile mayor, could not miss this opportunity to make a speech, and there will be addresses by the usual bunch of limelights, and then Art Smith will take the body

away up on his aeroplane and sail out over the waters and drop it to oblivion, and everybody will shake hands and smile and say optimistic things.

And next day they will go back to their usual occupation of scheming and knocking just as if there had been no such thing as a holiday.

But it is a good thing, so push it along. It will help to advertise San Francisco.

Garrigues Talks Out Loud.

A statement has been posted in the Los Angeles Stock Exchange by John Garrigues, former treasurer of the Union Oil Company, for the "benefit of the stockholders of the Union Oil Company, Union Provident and United Petroleum Company."

In this statement Garrigues arraigns the management of the Union Oil Company which, he says, has grossly mismanaged the company. Part of the statement is as follows:

"Huge sums of stockholders' money were wasted in promotion enterprises fostered by private schemes and schemers upon the company; invidious contracts; in inefficient organization and the placing of relations and personal friends and favorites in positions for which they were in no way competent; in reckless expediency financing, while deluding the stockholders with glowing reports and high dividends."

After telling the various things which he claims were done by the present management to the detriment of the company, culmination of which came in the spring of 1913, he goes on to show how he, as treasurer, undertook to and did straighten out the affairs of the company, putting it in a financial condition second to none, and how in accomplishing this enormous task he "had to work in silence and alone, surrounded by the selfish and predatory."

Notwithstanding the fact that the affairs of the Union Oil Company, under the management of the Stewart interests and those with him, are in splendid condition, he finds that the "Stewarts are up to their old methods of stock jobbing" and he takes exception to it and warns the stockholders that all it not well with their interests.

The trouble seems to be that Garrigues is nursing a sore head because the Stewarts and those with them, are able and competent to get along without the help of Garrigues.

Standard Gets Lease at San Pedro.

Negotiations between the Standard Oil Company and the Los Angeles Harbor Commissioners have been terminated with a lease which has been granted to the Standard, and which means about \$1,000,000 a year increase in the business of the Los Angeles port, San Pedro. The lease covers seven acres of land at Smith Island for the company's new storage and oil-loading plant. Under the lease the city will be paid \$6,000 per annum for thirty years for the land alone, while a minimum of \$15,000 will be paid by the company for wharfage privileges. It is announced that \$100,000 will be spent immediately upon tanks and buildings on the tract leased.

Recent advices from Washington state that President Wilson has withdrawn from entry 489,000 acres of oil land in Montana, in the south central part of the State. Part of the order embraces the Glendive rock formation in the eastern part of the State,

REORGANIZATION OF GENERAL PETROLEUM

One of the worst, if not the very worst financial tangle in which investors of the Pacific Coast have been enmeshed, is General Petroleum Company, and it is to the credit of those who have been working patiently and conscientiously for many months, that now there has come a solution of the various problems confronting the company, and indications are that the reorganization plans evolved will bring order out of the chaotic condition that has kept back this great company.

That it is a great company one need but examine the various properties and the productive ability of them, to understand that General Petroleum is worthy of the support and respect of every investor.

Credit must, of course, be given to a number of men in the consummation of the negotiations, but certainly to none is more credit due than to Frank B. Anderson and John Barneson. These two men have worked diligently and faithfully for the interests of the company and have succeeded where pessimists have predicted failure.

It is now announced officially that all interests in the General Petroleum Company, General Petroleum Limited and General Pipe Line Company, or their accredited representatives have agreed upon a plan of reorganization which remains to be submitted to the General bondholders. As the entire property, subject to prior claims, goes to this class of security, it is impossible that the bondholders will offer any serious objection to the reorganization. The main features of the plan may be outlined as follows:

(a) A new company will be organized to acquire by foreclosure all the assets of the General Petroleum Company.

(b) The company will issue to Andrew Weir and his associates ten-year 6 per cent first mortgage bonds, callable at par, estimated not to exceed in amount \$1,500,000.

(c) The new company will issue \$3,000,000 7 per cent preferred stock, to be exchanged par for par for a similar amount of collateral trust notes at present secured by \$6,000,000 General Petroleum bonds.

(d) The new company will issue common stock to be exchanged par for par for General Petroleum Company bonds, the approximate amount being \$12,500,000.

(e) The new company will give a second mortgage on its property for \$4,500,000 to secure the present bonds of the General Pipe Line Company. Of these bonds \$500,000 are now owned by the General Petroleum Company.

(f) Holders of the Pipe Line Company mortgage agree to waive sinking fund payments until November, 1917. These payments, amounting to \$337,500 a year, will be three years in default in November, 1916.

(g) The General Petroleum Company will acquire by purchase for \$200,000—giving therefor its notes, payable in three annual installments—\$2,000,000 8 per cent guaranteed preferred stock, additionally secured at present by a clause in the deed of trust under which General Petroleum Company bonds were issued.

One of the first effects of this plan will be a saving of nearly \$118,000 a year to the holders of the bonds. Under the existing organization, the charges, with the exception of interest on General Petroleum bonds, are as follows:

Interest on floating debt (Weir et al).....	\$ 90,000
Interest on collateral trust notes.....	180,000
Interest on pipe line bonds (less bonds owned by General Petroleum Company)	240,000
Dividends on pipe line stock.....	160,000
Total	\$670,000

Under the plan of reorganization the charges preceding the common stock dividends will be as follows:

Interest on first mortgage bonds.....	\$ 90,000
Interest on pipe line bonds.....	240,000
Interest on \$200,000 notes.....	12,000
Dividends on preferred stock.....	210,000

Total

The saving is nearly 1 per cent on the General Petroleum bonds at present outstanding.

The members of the reorganization committee are entitled to highest credit and commendation for having effected so favorable a plan. Andrew Weir has been co-operating in every way with the reorganization committee, and where "bond" is indicated it also means "interim certificates." These, it will be remembered, are the securities deposited with the Western Ocean Syndicate. It must be remembered in this connection that Weir advanced the company between \$2,500,000 and \$3,000,000 in cash during its period of greatest stress, and of this amount he is out of pocket \$933,333, the amount General Petroleum had paid on the Union Oil option.

The magnitude of the work done by the reorganization committee can be understood when it is remembered that holders of \$3,000,000 collateral trust notes, secured by \$6,000,000 first mortgage bonds were induced to exchange their holdings for a similar amount of preferred stock. In addition to this the holders of \$2,000,000 of 8 per cent guaranteed preferred stock virtually surrendered their holdings, even though these holdings had prior rights to those covered by the General Petroleum's mortgage.

It is good work, and not only those interested in General Petroleum, but the entire investing community as well, are under obligations to the reorganization committee.

Guatemalan Oil Lands.

The government of Guatemala has taken measures to retain exclusive control of all oil deposits of that country. A presidential decree in a recent number of *El Guatemalteco* specifies that deposits of oil and hydro-carbons may be acquired or worked in no other way than by a lease from the government for terms of not more than 10 years and such leases will be made only to native or naturalized Guatemalans. Special regulations are to be issued giving terms of leases.

New Zealand Petroleum.

According to reports issued by the New Zealand minister of mines, there are fifteen borings for petroleum in that country, these wells varying from 1,375 to 4,040 feet in depth. Five of these are producing slight quantities of crude oil. The government believes that more and better oil can be found lower down and it is encouraging the sinking of deep wells.

ANOTHER BLOW AT THE MERGER

When President Stewart, of the Union Oil Company, gave his option for his own stock and that of all other stockholders of the company to Mark L. Requa, which stock was desired for the purpose of forming an immense merger of oil companies in California, it was stipulated that this option would not be effective until Andrew Weir had given his consent.

Now comes a snag in the current of affairs of the proposed merger, for Weir not only withholds his consent but is emphatic in his opposition to participation on part of the Union Oil in the merger.

Weir, in conjunction with R. Tilden Smith, of London, holds \$2,779,300 worth of the stock of the Union Oil Company, which stock was turned over to them on the cancellation of outstanding acceptances given to Weir and Smith as a result of the failure of English financiers to take over the control of the company.

According to those best informed, Weir's opposition means that all negotiations for the merger are off, so far as the Union Oil is concerned, and this virtually leaves little to be merged except the Doheny interests. Naturally if Doheny can saw off some of his properties he would be glad to do it, consequently we shall hear considerably more of the proposed merger before everything is settled.

It stands to reason that any help looked for by any oil interest from Europe under present conditions

over there has slim prospect of consummation. European financiers are not looking to increase their overseas investments, and in fact are getting out of them as rapidly as possible. Reports from England, especially, indicate that those who have their money invested in American stocks or properties of any kind are trying to unload them to get rid of heavy income taxes, and also to secure funds to help out their country in the present time of financial distress.

Carrying forward this idea, and in corroboration of it, comes the news from the Santa Maria district, through the company's offices at Los Angeles, of the changing of the Santa Maria Oilfields Company, Limited, from an English to an American company. This change is a direct result of the war, and a new Santa Maria Oilfields of California is being organized which is to be capitalized at several million dollars.

C. B. Eyre, a prominent Los Angeles capitalist, who is deeply interested in oil, has just returned from a business trip to London, where he was accompanied by G. Bishergias. They negotiated with the English owners of the Santa Maria Oilfields, of California, Ltd., for a transfer, and according to Eyre the Englishmen were anxious to realize on their American holdings.

The full details of the new company are being worked out and it will probably end with a sale of stock to American investors, the money thus secured being paid for the stock in the English company.

Official Report of Damage.

The following statement has been issued by the Department of Oil and Gas of the State Mining Bureau, regarding the damage done by the recent storms in the San Joaquin Valley of California.

"Operations in the San Joaquin Valley oil fields will for the next few weeks be confined largely to repairing the damage done by the recent wind storms. The work of rehabilitation has already been actively commenced, and the weekly report of the State Mining Bureau clearly shows that it is going forward at the expense of proposed new work which falls considerably below the weekly average. Only two new wells are reported, one by the Associated Oil Co. in the Lost Hills field and one by the Standard Oil Co. in the Midway field. The number of wells reported for deepening or redrilling is only four. Twelve wells are reported for test of water shutoff.

"Authentic reports of the storm damage indicate that nearly two thousand derricks were blown down, which is about twenty-five per cent of the total number of producing wells in the San Joaquin Valley, a small portion of the derricks were idle or incompleated wells. The month of February may therefore be expected to show a shortage in oil production over the entire state, amounting to possibly 40,000 barrels per day, or over fifteen per cent of the recent monthly totals. Derricks can probably be replaced at a cost of about \$400.00 each, or a total of about three quarters of a million dollars, of which about one-third will be spent for labor. There seems to be but little possibility of reconstructing the derricks to avoid similar loss

in the future and operators must find such comfort as they may in the fact that such storms are unusual.

"Increased drilling activity is to be expected in the next few months and the work of the Oil Department of the State Mining Bureau will be increased, but no delay of field operations is likely to occur because of the plans of the Department contemplate an enlargement of the staff after the beginning of the next fiscal year. A number of assistants, including drillers and other skilled workers will supplement the present engineering force. All the appointments are subject to the State Civil Service laws and due notice will be given before examinations are held."

Navy Wants the Oil Lands.

Lieutenant Commander I. F. Landis, of the United States Navy, and in charge of the naval petroleum reserves at San Francisco, in his testimony before the Public Lands Committee of the United States Senate, declared that unless the naval oil reserve in California were exempt from the pending oil land leasing bills the navy was likely to be without sufficient oil supply for its oil burning battleships.

The north half of the reserve, according to Lieutenant Landis, is of doubtful value, and only the south half can be depended upon for enough oil for future supply.

According to his statement the accessibility of the valuable reserve depends largely upon the suits now pending to oust the Southern Pacific, which holds patents on alternate sections. In case the government does not oust the railroad the latter will be able to drain 25 per cent of the reserves in twenty years.

CALIFORNIA CONCENTRATES

The Royal Dutch Shell Company is steadily improving its property in the vicinity of Coalinga.

The Associated Oil Company is preparing to install a big pumping station a mile north of Tulare.

The Olinda Oil and Land Company has paid its regular quarterly dividend of $\frac{1}{2}$ cent a share.

Four of the new type of stills have been installed at the big Shell plant at Martinez.

The Shell Company announces that shipments of kerosene will begin from Martinez to China and other Oriental ports about March 1st.

The Lost Hills Development Company has given notice that it will drill two new wells: D-3, on section 13, 26-20, and D-7, on section 19, 26-21.

The Federal Drilling Company is down about 1,800 feet in the new well of the Edmonds Midway Oil Company on section 32, 32-24.

The Kern Trading and Oil Company will cement its rotary hole on section 35, 19-15. The contract calls for 2,800 feet.

The Coalinga Mohawk Oil Company has its rotary hole down 2,000 feet in well No. 7, section 12, 20-15, Coalinga.

The Associated Oil Company is preparing to re-drill well 9-D, and shut off the water. This well is on the north line of section 36, 20-14.

The Kern Trading and Oil Company has completed its sixteen miles of gas line from No. 1 camp on section 1, 32-23, to the McKittrick district.

The Standard Oil Company is down 4,200 feet on its No. 1 well on the Domengine lease, on section 27, 18-15, Coalinga field.

The Columbia Oil Company has announced its regular quarterly dividend of $1\frac{1}{2}$ cents per share, or 6 per cent per annum.

The San Francisco Crude Oil Company will re-drill several of its wells on section 6, 20-15, Coalinga district.

Three new oil companies have entered the Brea field. They are the Coppa de Oro Petroleum Company, the Gold Seal Oil Company and the Little Brea Company.

There have been a number of quiet inquiries for oil land in California recently, and it is understood that the big companies are after properties to replace those that are in the withdrawn districts.

The General Petroleum Company is preparing to make additions and extensions to its present \$500,000 plant at Vernon, in Los Angeles county, during the present year at a cost of fully \$250,000.

The Prairie Oil and Gas Company has announced an advance of 5 cents a barrel on crude oil at wells in Oklahoma. The price is now \$1.30, the highest it has been since 1904.

The well that the State Consolidated Oil Company has been drilling on the Lloyd ranch, near Ventura, entered oil sand at a depth of 2,555 feet and broke loose, throwing oil and water over the top of the derrick. In addition to this well the company has twenty-eight producers in the Midway and McKittrick districts.

It will probably be several weeks before a majority of the properties affected by the recent storms in the Taft district will be in working condition again, owing to bad roads preventing the shipping of material.

The luck of the St. Helens Petroleum Company sticks with it, as is apparent from the fact that No. 11, on section 16, 32-2, Taft district, came in with a flow of 1,500 barrel a day. This is one of the biggest flows found on the side of the Buena Vista hills.

The Hub Oil Company is preparing to pull up the casing and test the sand at 3,600 feet where there was a showing of oil. This well is on section 22, 21-15. The hole was carried down past the oil showing to a depth of 4,355 feet but no oil sands were found.

Reports from Fullerton speak of plans being made by some big company for the development of thousands of acres of land north of that city. Much of the land in this vicinity has been leased by the Union and the Standard, but up to this time very little has been developed.

Field Work Progressing.

According to the recent bulletin of the State Mining Bureau, field work in the oil districts of California, is progressing, notwithstanding the set back to the companies operating, through the heavy storms. The week ending January 29, showed a substantial increase over previous periods in the number of wells reported to the Bureau. Ten new wells were started during the week, two each in the Midway, Kern and Coalinga fields, three in the Whittier-Coyote district and one in the Santa Maria field.

According to this bulletin the deepening of oil wells in the Santa Maria district holds considerable promise of developing the lower sand that has been entered by but a few wells. The Bureau is taking active steps to see that this sand shall be protected from water infiltration which has done so much damage to the oil deposits in this field through inattention to proper safeguarding.

Standard Makes Big Earnings.

Standard Oil Company of California seems to have been doing pretty well during the last few months, according to reports that have been circulated on California Street. It is stated that the net earnings of the company for the past year will total \$35,000,000. Of this \$5,000,000 went to the stockholders in dividends, and \$30,000,000 went to the surplus fund, making that fund more than \$70,000,000. It is contemplated that there will be in the surplus fund \$45,000,000 after paying to the stockholders a 50 per cent stock dividend. Much of the earnings represented in the above came during the latter part of the year, owing to higher prices and better market expansion. The outlook for the coming year presages much better profits for 1916.

An increase of one cent a gallon on Red Crown gasoline and V. M. & P. naptha has been announced by the Standard Oil Company effective February 7. This means that the price of Red Crown gasoline is now 17 cents in barrels and 24 cents in cases, while naptha is 16 cents in barrels and 23 cents in cases.

Statistics Show Improvements.

According to statistics gathered for the last half of 1915, a gain of 3,739,479 barrels was shown in the shipments of petroleum, as compared with the first half of the year, which itself showed an increase over the last half of 1914. During the last six months of 1915 shipments averaged about 8,000,000 barrels a month.

This steady demand during the closing months of the year leads to a belief in an encouraging outlook for 1916, and operators are anticipating a record-breaking year. There will be decline in production during the fore part of 1916 owing to the heavy storms and other causes, but, with the stored oil to draw from and increased activity in various fields, there is no question that this will be a big oil year.

There was approximately 55,977,180 barrels of oil in stock on hand at the close of 1915. These stocks had been reduced more than 2,000,000 barrels during the year, showing a gradual increase of demand over production. With the present rate of shipment and production it will take less than ten months to exhaust the oil stock.

With this decrease of production and extraordinary demand for crude petroleum it looks very much as if the plans of the big refiners would be upset, and there may come a consequent advance in prices. New work has been started in several fields and drilling was active up to the time of the storm. This will be renewed as soon as the damage is repaired, and the result will be increased production, with the development of new fields.

It is an open secret that the Coalinga district is on the wane and that other productive fields are showing a steady decrease. This means that sagacious oil men are already looking out for new fields. There is considerable wildcatting going on, with surprising results in some districts. New fields are being looked for, and it is said that several places in the northern part of California that have been considered good prospects will soon be developed.

Former President Sued.

The Creme Petroleum Company, of San Francisco, has brought civil suit for the recovery of \$10,000 from its former president, G. W. Wylie, a former assemblyman from Visalia. The complaint alleges that Wylie, and his son, who was nominal secretary, appropriated the sum named and that the corporation received no value in return.

Wylie declares that the money was used for the legitimate business of the company and was paid for the lease of the Gold Top Oil Company in the Lost Hills district. It is stated that the directors of the company never authorized the transaction, and that there is no evidence in the accounts of the company of any such transaction.

Standard After Peruvian Oil.

According to reports received from New York the Standard Oil Company is planning vigorous and extensive developments of the Peruvian oil fields, and in order to bring this about the interests back of the Standard will negotiate a \$15,000,000 loan for the Peruvian Government. In return for this the Standard asks the Government to establish a petroleum tax of 12 cents a ton for a twenty-year period, which will cover the term of the loan.



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Standard Oil Company

(CALIFORNIA)



EWING'S PLAIN STATEMENT

An outline of the oil situation, showing condition of affairs prior to the time any withdrawal bill was put into effect, together with the conditions that have been brought about by such bills, is embodied in the argument of D. S. Ewing, now in Washington, an outline of which follows:

The Oil Industry Association of California wants you to know:

1. That our legal and equitable rights should be protected.

2. Our situation is unique.

3. Under the mining laws, which were inadequate, we tried in good faith to operate.

4. No mineral laws prior to 1897 even contemplated petroleum mineral oils.

5. Congress in 1897 attempted to make the then existing placer mining laws applicable to petroleum mining claims.

6. At that time there was no such thing as the conservation idea in existence.

7. The placer mining laws of the United States could not directly, in some cases, apply to petroleum mining claims, because

(a) The first requisite thereunder was a discovery.

(b) The petroleum deposits are never found on the surface of the ground.

(c) The oil bearing sands are always beneath the surface of the ground and in many instances many hundreds of and even thousands of feet away.

(d) Under the placer mining laws a discovery could be and always was made a few feet below the grass roots, and without the expenditure of a dollar of money except the "grubstake," the cost of a shovel and sometimes a pick and the time of the prospector (which before discovery was valueless except in his untiring zeal to enrich himself and the nation).

(e) To discover petroleum minerals hundreds and many times thousands of feet of hole must be drilled before the sand bearing such minerals is encountered.

(f) Our California courts have held, and rightfully so, that neither an outcropping or a seepage is sufficient on which to base a petroleum mineral discovery.

8. The placer mining laws of the United States do not apply to petroleum mineral claims in some claims because

(a) Thereunder a sufficient indication of mineral to justify a prudent man to further expend time and money in the prosecution of his development was sufficient to hold the claim.

(b) When so justified in holding his claim he was protected in his rights initiated by his location until a valuable discovery of the minerals in commercial quantities were obtained, provided only he did work to the extent of \$100 per year at any time during the year.

9. Under these placer mining laws the citizens of California were invited to and did go upon these public lands, explore the same and made discoveries thereupon where possible.

10. Under the solemn invitation of the Federal Government many thousands of dollars have been spent, many millions of dollars worth of petroleum oils have been discovered; many thousands of acres of land have been patented before any withdrawal order whatever.

11. Many petroleum mineral claims were validly located without any change whatever in the manner or method of working or developing this petroleum claim.

12. No claimant to any petroleum mining claim located and held under the laws as then existing had notice prior to June 25, 1910 (being the date of the passing of the Pickett Bill), or possibly not until the 3rd of July, 1910 (that being the date of the presidential order under the Pickett Bill), that there was to out discovery before September 27, 1909 (that being the date of the withdrawal order).

13. Theretofore he could at any time during the year succeeding his location when he first made and during each year thereafter go upon his property and do the required assessment work provided for in the placer mining laws.

14. In fairness, equity and good conscience the petroleum mineral locator should have been given in these withdrawal bills, and if he was not therein given, he should now be given, a reasonable time within which to commence his operations after the radical change in the laws which were in existence at the time he initiated his right.

15. The change in the laws with reference to his claim when located in good faith should not have been and should not now be retroactive unless Congress purposely intends to and wants to hurt the private citizen who has upon the invitation of the

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Government gone upon these lands and initiated his rights under the laws then in existence.

16. The Taft withdrawal order and the Pickett Bill both have heretofore received and we believe will hereafter receive at the hands of the Departments of the Interior, Navy and Justice too strict a construction after considering the prior inadequate laws under which only the petroleum locator could operate.

17. We want patents to lands located and claimed prior to September 27, 1909, whereupon discovery has since been made with reasonable diligence of the locator or his successors or assigns who took his claims for a valuable consideration and without actual knowledge of fraud.

18. We want preferential leases on lands located after September 27, 1909, but before July 3, 1910, whereupon discovery has with reasonable diligence been made either by the original locator or his successors and assigns for a valuable consideration and without actual knowledge of fraud.

19. We want the right to first prosecute in the Land Department our application for patents and then if there unsuccessful to have a reasonable time within which to surrender our rights and ask for preferential leases.

20. We are neither crooks, land-grabbers nor thieves, but are honest, law-abiding citizens of the United States, who have unfortunately while acting in good faith, been made the victims of a new idea or policy of government.

21. We know that we are right.

22. We simply ask time enough from you to prove to you that our claims are just, equitable and should receive at your hands protection.

23. We do not think that you will discriminate against us when you know the true situation, and all of the circumstances surrounding the controversy.

We do not think the Department should attempt to influence legislation which, if enacted, will confiscate property of private citizens acquired while acting in good faith under the laws then existing.

THE BUSINESS OUTLOOK

The CALIFORNIA DERRICK has been optimistic over the conditions of general business for some months past, and it has endeavored to instil some of its optimism into the minds of business men, especially those in control of large financial institutions.

There is an old saying among financiers that there is nothing more cowardly than a million dollars except two million dollars. The action of financial circles during the present upward trend of business fully bears out this saying. It has been impossible for legitimate business to induce money to come out of hiding even on security that at all previous times has been considered ample. Nothing at all in the way of exploitation or enlargement has been given support. Men who have good propositions are told this is no time to expand or to do anything in the way of promotion work.

When bankers are asked why they hold such close reins on money, they reply that they do not know what is going to happen. It is a foolish answer, for no one ever knows what is going to happen. Three days before the great European war no one knew it was going to happen, and three days before it stops no one will know it is going to stop.

We know that the United States was never better off from a manufacturing, industrial or agricultural outlook. We know that hundreds of laudable enterprises have been choked to death because it has been impossible to raise sufficient money to carry them to success.

Bankers will tell you that they have to safeguard their depositors. Depositors will tell you they dare not use their money for investment because their bankers are scared and if the bankers are scared it is no time for the man who knows nothing about financial conditions to put his money out.

The result of this is that bank vaults are becoming overloaded with cash, business is going from bad to worse, and hundreds of good men are failing because they cannot get the usual accommodations.

If this were the worst of the condition it would be bad enough, but it is not. Notwithstanding the fact

that the bankers are saying they are unable to let out the money in their vaults for promotion or speculative enterprises—and they call all enterprises speculative that are not based on commercial transactions—they are, in many cases, using this very money for their own private speculation.

This is said with absolute knowledge of what it means and of the facts concerning it. It is in the knowledge of the editor of the DERRICK that certain banks in San Francisco have been utilizing their knowledge of conditions to make big profits for individuals and not for the stockholders of the institutions. Possibly the word "banks" should be changed to read "bankers," in this instance, for the ventures have not been made in the name of the banks concerned but in the names of officers of the banks.

It looks very much as if there had come a concerted attempt on part of large financial institutions and cliques to bring about an era of hard times, notwithstanding the fact that everything in nature means that good times should prevail. If there be politics in this move, then it is bad politics, and it is time the people were awakening to the possibilities of the moneyed interests to control and to stifle legitimate enterprise.

Working at Washington.

Congress has not yet taken action on the California Oil land situation and our people are working night and day to bring about such a sentiment there as will be of material aid and assistance to those who have developed California's petroleum industry in good faith. Among those who have been especially active in the work at Washington are Roy Bishop, president of the California Oil Industry Association, Lieutenant-Governor John M. Eshleman, ex-Governor James Gillett, Frank Short and Senator Phelan.

The special edition of the California Derrick was freely used for the furtherance of the movement and its clear presentation of facts and figures was much commented upon by those who are interested in the matter.

SEABOARD OIL AND TRANSIT COMPANY

The DERRICK is in receipt of a number of letters from its subscribers asking information regarding the Seaboard Oil and Transit Company, and in order to give an answer that would be comprehensive and accurate the editor of this paper visited the offices of the Seaboard Company at Los Angeles for the purpose of getting the information desired. As a result of his investigation he has arrived at the following conclusions:

The present management of the company has nothing to do with the securing of the California properties of the company. Through an action of the Government against the former board of directors of the company, about three years ago, the affairs of the Seaboard Oil and Transit Company were thrown into a very bad condition. At that time the stockholders and creditors started a movement to reorganize the company and the present board of directors was chosen to carry out this work.

The California properties of the company were not considered of value and in some instances they were a positive detriment to the progress of the company. Just what to do with them has been the most serious problem confronting the present directors. They made a number of attempts to get these properties into such a condition that they would prove profitable to the company, but without success, so they finally decided to relinquish all claims to these properties and cut loose from them entirely. This was told to the stockholders in a circular and the reason therefor given.

In doing this they eliminated more than \$100,000 debt that they would have been compelled to pay if they had retained these properties which were not showing any actual profit to the company. In this it appears that the present board made a wise and conservative move and one that should have the support of every stockholder. They got off their hands a few undesirable properties, inherited from a former bad management.

The company has leases on several parcels of land comprising 2,500 acres in the heart of the Tampico, Mexico, oil district. These leases run for twenty-five years, and this land is surrounded on three sides with good producing wells, one of which recently came in flowing more than 100,000 barrels a day. No new work can or will be started in this Mexican district until conditions in that district have been settled to such an extent that it will be considered safe to do so, but the board of directors is preparing to make all necessary sub-leases and begin drilling as soon as conditions are right.

An assessment has been levied of one-half cent a share for the purpose of providing the company with sufficient funds to preserve its organization until a revenue can be derived from its property. From the indications this will come about before the assessment is exhausted.

There is no question as to the value of the property leased in Mexico, and there is also no question of the honesty and good business judgment of the present board of directors, consequently the DERRICK believes that the stockholders will do a wise thing if they pay the small assessment and await with patience the results of the work of the men who are trying to

bring them something for the money they have invested.

Of course there is always a possibility of failure to get oil and this possibility confronts the company in its Mexican properties, but if it proves a success the stock of the company will be worth very much more than it cost any of the owners.

Oil Company Throws Light on Carbon Deposits.

"If the amount of air entering the carburetor is not sufficient to insure complete combustion, we have what is known as a rich mixture," says a bulletin on carbon deposits and its causes, issued by the Standard Oil Company. "This is a slow-burning mixture rather than an explosive one and will cause excessive carbon deposit.

"For example, if the wick of an oil burning lamp is turned too high, too much oil will be siphoned through the wick for the amount of air entering the lamp to form complete combustion. The lamp will smoke, and soot, which is carbon, will be deposited on the chimney.

"This is exactly what happens in the cylinders of a gas engine. The products of incomplete combustion of the gasoline deposit a certain amount of carbon in the combustion chamber. This carbon deposit will build up very much more quickly if it has a bed to build up on, such as would be produced by a lubricating oil which when exposed to the heat of explosion would leave a gummy deposit.

"Lieut. G. S. Bryan, U. S. N., has ably and correctly pointed out in his article on 'Motor Cylinder Lubrication' that lubricating oils manufactured from Paraffine Base crudes deposit more carbon than lubricating oils manufactured from Asphaltic Base crudes. The reason for this is that Paraffine Base crudes contain paraffine wax which cannot be entirely eliminated from the manufactured product."

Oil Witness with Unclean Hands.

There is an old legal maxim that when one goes to court he must have clean hands. In other words, there must be no taint against either litigant or witness. This axiom has been worked in the cases of the Government against the Southern Pacific, in the suit to oust the company from its oil lands. The attorneys for the company have presented to the court a certified copy of an indictment against one of the Government witnesses, Allen G. Nichols, who is charged therein with using the mails in a scheme to defraud.

It is sought through this indictment to show that the witness who has been testifying for some time for the Government, is not entitled to credence, and while Judge Bledsoe at first denied the introduction of the indictment he changed his mind and had it spread on the records.

Oil Found in Oregon.

A report from Medford, Oregon, says:

"Considerable excitement has been caused over the finding of coal deposits and oil indications in an artesian well being drilled on a ranch a few miles from Medford. The well has been sunk 1,000 feet and the shaft has pierced three veins of coal aggregating twenty feet in thickness, and considerable oil sand has been found as well."

OIL COMPANIES LOSE BEFORE DOOLING

Judge Dooling, of the United States Court, swept away all technicalities in the oil cases and decided that his court has the right to determine the cases before him in equity. He denied the motions of the attorneys for the oil companies involved to dismiss the suits brought by the Government as a result of the famous Taft withdrawal order.

The decision fully sustains the position of the Government that persons filing claims to land after the withdrawal act, and those who have not diligently prosecuted their development on lands already filed upon, were liable to prosecution and ejectment.

The decision denied the motions to transfer the cases from purely equity matters to the law side of the calendar, which allows jury trials and a bill of particulars to strike out part of the accusations.

As a first direct result of the decision receivers will be appointed for the following companies, whose lands have been under question:

The Consolidated Midway Oil Company, the David

Kinsey Company, the Brookshire Oil Company, the Thirty-Two Oil Company, the Chanslor-Canfield Midway Oil Company, the Record Oil Company, the Consolidated Mutual Oil Company, the Caribou Oil & Mining Company, the General Petroleum Company, the St. Helens Petroleum Company and the North American Oil Consolidated Company. The Associated Oil Company was excepted from the receivership order as it proposes to settle the litigation by a certain agreement with the Department of Justice. All of the companies mentioned hold quarter sections in the Bellridge field and in the Naval Reserve fields.

This decision differs from that recently rendered by Federal Judge Riner, of Wyoming, wherein the court held that the court could not oust from oil lands concerns operating prior to May 6, 1909. In the case of the present defendants the Government alleges that they filed patents following the Taft withdrawal act with the expectation that it would be declared unconstitutional.

Oil Stocks Beginning to Sell.

It is worth comment that during the year 1915 trading in oil stocks on the San Francisco Stock Exchange was almost without incident until toward the close of the year. Oil at the lowest prices, governmental interference, difficulties of shipment, and a number of other adverse circumstances prevented much dealing in oil stocks. Except the standard stocks there was really no business of any moment.

During the last quarter of the year business picked up materially and it was in the last three months that a majority of the sales were made. The following table shows the sales and range of prices for the principal listed stocks during 1915:

Stock—	High	Low	Shares
Brookshire	\$ 0.17	\$ 0.15	2,000
Caribou	1.05	.75	7,800
Coalinga Mohawk ....	.45	.45	3,700
Monte Cristo .....	.20	.15	8,600
North American Cons..	.15	.15	32,850
Palmer Union .....	.08	.01	85,244
Peerless	3.00	3.00	50
Pacific Crude .....	.10	.06	4,400
Premier .....	.19	.19	2,000
Sauer Dough .....	.95	.90	7,000
Sterling	1.15	.80	3,300
United .....	.20	.20	2,000
Union	58.00	50.00	50
Total			158,994
Value, \$33,584.			

Production is Stable.

The following from the Standard Oil Bulletin for January is of interest:

"An analysis of production for the year 1915 discloses a daily production in January of 250,000 barrels, as compared with 236,000 barrels in December, a falling off of but 14,000 barrels daily. This is interesting and significant. In these figures no consideration is given to the shut-in production, which is an uncertain quantity. Not since 1906 has the industry in the State witnessed so few well completions, a total of but 240; but in spite of this limited develop-

ment the production decline has been small, and this condition well illustrates the marvelous stability and permanency of the California fields. It appears quite possible that the present production might be maintained for a considerable time with but little development.

"During the last few months of the year there was a demand in excess of production of between 25,000 barrels and 30,000 barrels daily, and, as a natural result of this condition, crude oil prices increased approximately 25 per cent.

"At the moment there are no new fields in sight, and the insistent demand for refinable crude to supply the ever-growing need for gasoline has already created a shortage.

"Referring to the markets of the United States, crude oil values in California are lower than obtain elsewhere, but gasoline is also lower, and today gasoline sales in California are made at prices of 5 cents per gallon under the average Eastern quotation."

Associated Buying Much Oil.

Reports from Coalinga field indicate that the Associated Oil Company is in the market for oil in large quantities and many of the independent companies are selling all of their stored oil. That much new oil has been going through the pipe lines of the Associated to Monterey gives color to this talk. It is also reported that the Associated is negotiating with both the Union Oil Company and with the Independent Producers agency for crude oil.

Big Oil Corporation Chartered.

Report comes from Dover, Delaware, of the incorporation of the Pan-American Petroleum and Steamship Company, with a capitalization of \$150,000,000. The state tax for this large corporation amounted to \$7,600. This is the Doheny proposition which has been talked of and written of for the past several months, and it is a consolidation of the various Doheny interests in one great company which will not only develop and operate oil wells, but will build ships and railroads and operate them as well.

New Oil Tanker Launched.

A most successful launching was had of the big new oil tanker Los Angeles, of the Union Oil Company, at the Union Iron Works, on February 5. The big vessel slid from the ways when christened by Miss Gertrude Orcutt, daughter of W. W. Orcutt, a director of the Union Oil Company.

The Los Angeles is a sister ship to the La Brea, recently launched, and is the third big tanker to be launched by the company in the last two years. The Los Angeles, which will be ready for commission in about two months will make the twenty-fourth vessel in the Union Oil fleet. She is 435 feet long and 56 feet beam. She will be equipped with turbine engines that will have a drive of twelve knots an hour.

Things are very busy at the Union Iron Works, and no sooner had the big steel tanker left the ways than the workmen were hard at work preparing to lay the keel for another big steel vessel. The Union Works is now employing more than 4000 men and has contracts said to exceed \$20,000,000.

A Blow at Fuel Oil.

Rear Admiral McGowan, paymaster general of the United States Navy, in his recent testimony before the Naval Committee of the House of Representatives, warned the oil men of California of the danger to the use of their fuel through the expected cheapness of Alaskan coal, when the government completes its road to the fields of the far-northern country.

According to the testimony of Admiral McGowan, oil is 50 per cent more efficient than coal for warships, but that at the prevailing prices coal is cheaper for the Atlantic fleet. The reverse is true on the Pacific but the opening of Alaskan coal fields by the completion of government railways is expected to again make coal the logical fuel of the Pacific fleet.

A New Colorado Oil Field.

A group of Denver men, known as the Akron Oil and Gas Company, are developing a new oil field of great promise about 100 miles northeast of Denver, Colorado, in Akron Basin, near Akron, Colo.

The first oil sand was encountered at a depth of 1675 feet. This strata was 8 feet thick giving sufficient oil to indicate a good well. This sand was cased off at 1985 feet as gas sand was penetrated giving an estimated flow of 4,000,000 cubic feet per day. As a gas well alone, the enterprise is believed to be a financial success, but continuous drilling was continued and at 2,050 feet deep another oil sand has been encountered. Drilling was discontinued at this point and arrangements are being made for storage and shipping facilities. When completed the well will be cleaned and continued into this oil sand from which it is expected that the Akron Basin will go into the ranks of the producers alongside of the Wyoming and Oklahoma oil fields. This company is officered by H. A. Gibson, president; C. G. Newcomb, secretary; together with G. A. Briggs, E. M. Mac-Neil, John A. Keefe, E. H. Radetsky and John Smith, constituting the board of directors, all business men of Denver.

The bondholders of the Adeline Consolidated Road Oil Company have taken over the company's properties, which consist of valuable holdings near Maricopa.

PROFESSIONAL DIRECTORY**RALPH ARNOLD****Consulting Geologist and Petroleum Engineer**

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Coast Agencies Can't Fill Orders

SPEAKING of conditions as they now exist it is worthy of note that Pacific Coast Agencies are not able to fill orders which they receive for materials which are being used in connection with the Oil Industry. We call this situation to the attention of our readers that they may prepare themselves for the conditions which are now appearing. Many concerns on the Coast claim they are unable to get orders filled at the factories and at the present time can not accept the orders which are offered them.

The Derrick has made inquiries in the East in regard to the situation but as yet has received only one reply. The Carnegie Steel Company is one of the progressive firms of the United States which is going to take care of its home business in preference to all foreign orders.

Time to Get Busy

In the West, it is springtime, the season of renewed endeavor and promise. The very atmosphere is vibrant with the suggestion of doffing coats, rolling up sleeves and going at it.

Across the topmost crest of the Rocky Mountains, there is already dashing the long overdue wave of prosperity.

The pent-up "Utica" of the East has not been any longer able to hold it within bounds, and it is plunging westward with roar and tumult to irrigate the dry channels of Western commerce and opportunity.

It is no longer a question of "watchful waiting." Opportunity is here. It remains but to hear it thun-

dering for admission and to open the door and let it in.

It were wise for us of the West to pause for an instant and take stock; to discard all petty feelings of sectional or personal jealousy, to scrap all politics, at least until July, and to take a long breath, make up our minds just what we want and then go out and get it.

It is the West's turn at the bat. The game is called and the result will be just what we determine to make it. The West and Westerners! Get busy. All together. Work. Hitch your wagon to a star and next year if you wish to do so and are foolish enough, go to New York and spend your gains. Now is the chance to get "ours."

British Gasoline Problems

(Special letter to California Derrick)

London, January 27th, 1916.

Upon reflection it strikes the average Britisher as extraordinary that, considering the increased world-wide demand, the supply of oil in this country has been so steady and the price so low. The great "tankers" that convey oil to these islands from overseas have rarely been interfered with, and large cargoes have regularly reached British ports, despite the activities of enemy submarines. In only one respect has regularity of "arrivals" been made more difficult, and that affects only Eastern sources of supply, like Borneo and Sumatra. As is fairly well known, a number of vessels have had to make the journey westward round the Cape instead of going through the Suez Canal, and the oil-tankers have been amongst these craft. Taking a broad view of things, however, the supply of oil from overseas has been exceedingly good, and very little inconvenience has been caused to users in this country through the war.

The demand for oil has been enormous since the commencement of the war. It is estimated that in Birmingham, to take a typical extremely active industrial and war material center, the demand has at least doubled. Increased use of motor vehicles has been responsible for a great deal of that, but apart from the amount consumed on the road, there has been a greater call for oil for manufacturing purposes. In Birmingham many manufacturers have found it expedient to put up oil motors in their works, in lieu of the prompt supply of other means of power. Oil for lighting purposes has also been in greater demand, but probably the greatest increase of all has been in the use of lubricating oil, and here, consequently, has occurred the greatest increase in price. The necessity for speeding-up output has led to the introduction of oil in many directions little suspected by the man on the street. For example, it has been found in many Birmingham works that the use of kerosene oil instead of suds on lathes used in some classes of metal work insures a quicker production and a better finish. In all the circumstances it is scarcely surprising that the cost of those kinds of oil has been raised appreciably.

The Gasoline Market.

Since the beginning of the war the oil prices that have best withstood the buffeting of the market have been those applying to ordinary gasoline for traction purposes. In the beginning of August, 1914, when this country was still stunned by the declaration of a world-wide war, a panic set in amongst the smaller class of dealers, and an attempt was made to rush prices up considerably above the level at which they then stood. Fortunately for consumers, the big oil companies refused to be moved, and a calmer view of the situation soon prevailed. Since then the price of gasoline has increased comparatively little, apart from the extra duties imposed by the British Government. In conversation with the Birmingham manager of the British Petroleum Company we learn that since the war broke out the company had only increased the price of oil 4 cents per gallon, roughly speaking. Towards the end of last August 2 cents per gallon was put on, and since then another 2 cents has been

added. In considering this extra 4 cents it should be remembered that the Government imposed an extra 6 cents per gallon duty. Even then the price could not be considered exorbitant for war time. Now, however, signs of a shortage for the general public are evident, and the British Petroleum Company, as agents for the Asiatic Petroleum Company, have taken the step of issuing a statement to their customers that inconvenience may be caused by difficulties in delivering orders from time to time.

This may be taken as a notification to owners of private cars that a general endeavor should be made to limit consumption of gasoline as much as possible. It was suggested to our representative on January 14th that cars used merely for pleasure should be taken off the road altogether. The lady who does her shopping by motor car might consider the advisability of doing it by other means, and so saving a certain amount of gasoline. Various reasons have contributed to the shortage, which is really a shortage in the sense that difficulties of distribution have to be coped with. The greatest reason of all is the heavy demand for gasoline on the part of the Government. Other reasons are requisitioning of oil cars by the Government, congestion on the railways, and increased commercial demand. As regards the railways, it is stated that oil supplies that used to reach Birmingham in two days now take four or five days on the journey. Busy industrial centers like Birmingham are bad sufferers from this congestion of traffic. During the past couple of days, for instance, no goods traffic could be accepted from Hull to Birmingham. Freights, too, have risen enormously.

Government Needs First.

In these circumstances, the company propose to supply the needs of the Government first and those of the commercial community second. Private owners of cars will have to take their chance. Factories and bus companies will be attended to before ordinary members of the public. The humble motor lorry carrying merchandise will be considered more important than the lordliest private car that ever rolled along the roads. It is possible that an attempt will be made to corner a supply of gasoline for public consumption, but the success of such an attempt is likely to be very small, especially when the firm stand made by the big companies at the commencement of the war is borne in mind. In the unlikely event of these firms being unable to resist such an attempt, it is suggested that the Government will be asked to fix a maximum price, and to impose heavy penalties for attempts to exceed it.

The statement issued by the British Petroleum Company is as follows: "The importers and proprietors of 'Shell' motor spirit regret very much the inconvenience which may be caused to their clients by temporary difficulties occurring from time to time in delivering their orders for motor spirit. They are supplying the great majority of the requirements of the motor spirit for his Majesty's forces in this country, and of the Expeditionary Forces in Europe and elsewhere. Owing to the unique and exceptional re-

sponsibility which they have accepted in this regard, they are frequently called upon to supply enormous quantities of motor spirit at very short notice, but they have deemed it their duty to meet these requirements even when—as occasionally happens—they involve some dislocation of the trade and some inconvenience to their other clients. In thus placing the national interest above other considerations they invite the co-operation of their clients in order that

their comrades at the front may have the advantage of ample supplies of the finest spirit that is available. With this object in view they ask their clients to limit their requirements to a minimum, and, avoiding all waste, to use every possible economy in the quantities consumed. Great assistance will also be rendered by refraining from the retention of a stock larger than is absolutely necessary."

High Gasoline and Low Oil

Much discussion is being indulged by oil men and others regarding the rapid increase in the price of gasoline and the relative inaction of crude oil. It looks very much as if there was an attempt to "pass the buck" on both sides, the operating companies declaring that the action of the Government is responsible, and the Government officials insisting that the suits instituted against trespassers on Government land have nothing to do with change of prices.

It is claimed by those close in on the operating side that the chief contributing force back of the advanced price of crude oil at the well is the lack of development on unpatented lands in the Midway-Sunset field. It is shown that of the decline of more than 13,000,000 barrels in production during 1915, practically 11,000,000 barrels occurred in the Midway-Sunset field.

Vice-President Kenneth R. Kingsbury, of the Standard Oil Company, issued the following statement regarding the situation:

"The United States Geological Survey shows that during the year 1915 there was an increase of only six-tenths of one per cent over 1914 in the production of crude oil throughout the country. At the same time there was an increase of 27 per cent in the consumption of gasoline.

"In 1915 the California production of oil fell off 14,000,000 barrels, owing largely to about 225 Government suits pending against the oil companies. Some of these companies would not develop properties involved in litigation. There was a falling off of nearly ten million barrels in the Midway and Sunset sections alone. In 1914 the California production of oil was 103,623,695 barrels. In 1915, 89,566,000 barrels.

"The low price of 10½ and 11 cents for gasoline here a year ago was abnormal. It was caused by an over-production of crude oil throughout the country in 1914."

Government officials and men interested in the automobile business take their usual knock at the "grasping monopoly" and say it is all brought about by the big oil companies in order to have effect on the Government prosecution of the oil land suits.

The solution of the question seems simple, yet like all simple solutions it is held back because it would give no chance to the demagogues and professional howlers to say anything.

Gasoline has advanced because the refineries cannot keep up with the exorbitant demand.

When we contemplate the enormous amount of gasoline being called for by the countries across the Atlantic it is readily seen that unless there is an increased production there will be an increased price. In addition to this the manufacture of automobiles and

gas-using engines has been unprecedented during the past year, and each one of these requires a supply of gasoline which must come from the general supply.

With all this increased demand there has been no material increased supply. Oil production has fallen off and the above-ground stocks have steadily diminished. That there has been an increase of price of crude at the well is too well known to be stated. This increase has been very material in the Eastern and Mid-West fields, and is now being felt in California. The latest price list of the Standard Oil Company that has been promulgated is as follows, effective February 16th;

San Joaquin Valley Fields:—14 degrees to and including 17.9 degrees gravity, 53 cents per barrel; 18 degrees to and including 18.9 degrees gravity, 54 cents per barrel, and for each increase in gravity of one full degree above 18 gravity, 1 cent per barrel additional.

Ventura County:—25 degrees to and including 25.9 degrees gravity, 67 cents per barrel, and for each increase in gravity of one full degree above 25 gravity, 1 cent per barrel additional.

Whittier-Fullerton Field:—16 degrees to and including 17.9 degrees gravity, 53 cents per barrel; 18 degrees to and including 18.9 degrees gravity, 54 cents per barrel, and for each increase in gravity of one full degree above 18 gravity, 1 cent per barrel additional.

So far as the increase in the price of gasoline is concerned, one need but examine conditions on both seaboards to understand that the price quoted in San Francisco, of 18 cents a gallon, is abnormally low. The price of gasoline in New York is 30 cents a gallon, and it costs but 6 cents a gallon to transport it across the continent. With the addition of 6 cents to 18 cents, gasoline could be laid down in the East at a profit of 6 cents above that which is obtained here by selling at 18 cents a gallon.

With the enormous increase in demand for gasoline there can come but one result so far as crude oil at the well is concerned, and that is there will be a commensurate advance in prices, and the Derrick confidently predicts that California will see "Dollar Oil" long before the end of 1916. Not only that, the consumers of gasoline may look forward to paying as much here for their fluid as the buyers pay in the East, and that means that the owner of an automobile will probably increase his running expenses by more than \$100 a year by the beginning of 1917.

Naturally, this will not be an unmixed blessing, for many of the automobile owners will get rid of them and apply the money received therefrom to the payment of the debt contracted to secure them.

Petroleum Resources of U. S.

By Ralph Arnold

The oil fields of the United States usually are classified as the Appalachian, Lima-Indiana, Illinois, Mid-Continent, Gulf, Rocky Mountain, California, and Alaska.

APPALACHIAN FIELD.—The Appalachian field extends from southwestern New York, through western Pennsylvania, southeastern Ohio, West Virginia, and eastern Kentucky, into northern Tennessee. The formations yielding the oil throughout this field include those of the Devonian and Carboniferous. The oil occurs along the axes and on the flanks of anticlines parallel in general with the strike of the Appalachian Mountains, and on minor terraces or other structures associated with them. Occasionally it has been found in waterless synclines. The reservoir rocks are principally sandstones and coarse sediments. The oil from this field is of the best quality in the world, yielding a high percentage of the lighter oil such as gasoline and kerosene, and is utilized entirely for refining. It is of paraffin base and varies in gravity from 25 deg. to 50 deg. Beaume (0.9032 to 0.7778 sp. gr.), the heavier grades coming only from the southern end of the field. The price of the "Pennsylvania grade" oil is always high, ranging up to \$2.50 per barrel. The average daily production of the wells is low, being 0.2 to 0.4 barrels in 1911. This field is almost completely developed except the portions in Kentucky and Tennessee, and even here recent prospecting has resulted negatively in a majority of cases.

LIMA-INDIANA FIELD.—The Lima-Indiana field covers a considerable portion of northwestern Ohio and Eastern Indiana. The oil is derived from the Ordovician, Silurian, and Carboniferous, largely from the Trenton limestone, the reservoir rock being porous dolomitic lenses or beds or sandstones. Favorable structures, such as half domes, terraces, etc., on the flanks of the Cincinnati uplift, usually harbor the commercial deposits. The oil is of paraffin base, varies in gravity from 30 deg. to 35 deg. Beaume (0.8750 to 0.8484 sp. gr.), carries a little sulphur, and is utilized entirely for refining purposes. The average initial daily production of the wells up to 1911 was 15.5 barrels; the average daily production per well was 0.7 barrels for that year. This field also is practically outlined, although new pools are even yet being occasionally discovered.

ILLINOIS FIELD.—The Illinois field occupies a strip of territory along the La Salle anticline in the southeastern part of the state. It also extends a short distance into Indiana. The oil is derived largely from the Pennsylvanian and a little from the upper Mississippian (both carboniferous), and occurs principally in well-defined sandstone horizons along the crest of the asymmetric La Salle anticline. Impregnation is governed locally by the lithology. A little of the oil comes from limestone. The oil of paraffin base although locally carrying some asphalt, ranges in gravity from 28 deg. to 39 deg. Beaume (0.8860 to 0.8284 sp. gr.), and is used principally for refining purposes. The average initial daily production up to 1911 was 63 barrels; the average daily production of the individual wells for the same year was 4.2 barrels. With the exception of some possible territory in the western part of the state

the Illinois productive area is well defined at the present time.

MID-CONTINENT FIELD.—The Mid-Continent field comprises the pools in Oklahoma, southeastern Kansas, and Northern Texas. The oil is secured from the sandstones of the Pennsylvanian (Carboniferous) formations in domes, half domes or terraces, and local anticlines on the flanks of the Great Ozark uplift. The oil is of paraffin base, varying in gravity from 27 deg. to 41 deg. Beaume (0.8917 to 0.8187 sp. gr.), and is used for refining. It is piped to the Gulf and also to Indiana and other eastern states. The development in this field has been phenomenal during the past few years, some of the pools being exceedingly productive. The average initial daily production of the wells in 1911 was 119 barrels; the average daily production 8.6 barrels. A fair percentage of the region embraced in this field yet remains to be prospected, the bulk of the untested land lying in Texas.

GULF FIELD.—The Gulf field includes the pools lying along the Coastal plains of Louisiana and Texas. The oil occurs for the most part in domes or quaquaversals associated with salt and gypsum deposits. The age of the containing rocks ranges from Cretaceous to Quaternary. The reservoir rock is usually porous dolomitic limestone or sandstone. The oil of northern Louisiana occurs in Cretaceous and Eocene rocks along an uplift or fold. The oils of the Gulf field vary greatly in composition; those in the strictly coastal belt vary from 15 deg. to 27.7 deg. Beaume (0.9655 to 0.8878 sp. gr.) and are of asphalt base; those of northern Louisiana vary from 25 deg. to 43.6 deg. Beaume (0.9031 to 0.8065 sp. gr.) and are of paraffin base. Sulphur usually accompanies the heavy oil. The lighter oils are used for refining, the heavier for fuel. Some of the individual wells have been exceedingly productive, a daily flow of 75,000 barrels being recorded for one at least. The pools usually are quite short-lived. In 1911 the average initial daily flow of the Gulf Coastal pools was 257 barrels; for northern Louisiana, 1176 barrels; the daily average for the field 60 barrels. Some territory remains untested in this field.

ROCKY MOUNTAIN FIELD.—The Rocky Mountain field embraces pools in Wyoming and Colorado, and as yet untested deposits in Utah and New Mexico. The oil occurs in beds of Carboniferous, Triassic (?) and Cretaceous age, nearly always in sandstone interbedded with shale, though occasionally in fracture zones. Typically dome structure is the most favorable location, but occasionally commercial deposits occupy monoclines or interrupted monoclines. The oils from the older formations vary in gravity from 18 deg. to 24 deg. Beaume (0.9459 to 0.9091 sp. gr.), are of asphalt base, and are used largely for fuel; those from the Cretaceous vary from 32 deg. to 48 deg. Beaume (0.8642 to 0.7865 sp. gr.) are of paraffin base, and are refined, yielding high percentages of gasoline, kerosene, and distillates. The productivity of the individual wells usually is not large, the average daily yield per well being about 25 barrels in 1913. The potentialities of the Rocky Mountain field are not great unless the extensive deposits of the oil shale of northwestern Colorado and northeastern Utah are

taken into account. As these deposits will require a distillation process for the recovery of their oil contents, they are not included under the head of free oil deposits.

CALIFORNIA FIELD.—California is the greatest producer of petroleum of any state in the union. It secures its oil from Cretaceous to late Tertiary age, the great bulk coming from the Miocene. Nearly every type of structure peculiar to the Coast Ranges yields commercial quantities of oil; anticlines, domes, plunging anticlines, monoclines, and fault zones being the principal sources. The reservoir rocks usually are sand and sandstone, though fracture joints in shale hold oil at least one district. The oil is practically all of asphalt base, although paraffin up to 4 per cent is found in a little of the oil from the Cretaceous and Eocene. The oil varies in gravity from 12 deg. to 35 deg. Beaume (0.9859 to 8484 sp. gr.), about 70 per cent of it being topped or refined. Much of the heavy oil is used for fuel and road dressing. The productivity of individual wells has reached as high as 58,000 barrels daily;

the average daily production per well was 45.2 barrels in 1913. The oil districts of California are practically outlined today and little in the way of additional acreage is to be expected in the future.

ALASKA FIELD.—Small quantities of oil have been obtained from the Jurassic rocks of western Alaska and the lower Tertiary of eastern Alaska. The oil occurs in sandstone along well-defined and sometimes faulted anticlines. The oil varies in gravity from 39 deg. to 45.9 deg. Beaume (0.8284 to 7958 sp. gr.) and is of an excellent refining grade. The wells so far drilled are small producers. The commercial productivity of the Alaskan deposits yet remains to be proven.

OTHER FIELDS.—In addition to the states mentioned as occupying the above fields, oil occurs in small quantities in Michigan (a continuation of the Petroleum, Canada field) and Missouri (a continuation of the Oklahoma conditions.) These states and Alaska together produced but 7,792 barrels in 1914. Alabama and Mississippi also are said to have possibilities.

Mexico Proposes Radical Oil Legislation

Private advices from Mexico City say that Nationalization of all Mexican oil lands and nullifications of concessions given by previous administrations for the exploitation of mineral fuel deposits throughout the Republic have been recommended to President Carranza by Minister of Fomento, Pastor Rouiux, and are now being considered by the President. This recommendation concerns American and British owners of petroleum companies, which have invested more than \$200,000,000 in oil lands, concessions, pipe lines, steamers, docks and refineries during the last decade.

Minister Rouiux is in charge of all public works, commerce, manufacture and agriculture, and is urging President Carranza to legalize his recommendations by issuing a decree embodying his recommendations for petroleum regulation. If Rouiux succeeds in getting what he wants, the following important measures will be put in force:

All petroleum-bearing lands will be nationalized, and all lands believed to be capable of yielding petroleum will be held subject to denunciation by any person complying with legal formalities.

Exploration and exploitation of petroleum will be declared to come under the head of development and public utilities, and all properties now being worked or developed will be considered subject to expropriation.

Companies exploiting oil lands which they do not own will be obliged to pay the owners of those lands not less than 10 per cent of the gross proceeds.

Six months time after the present decree will be allowed present owners or exploiters in which to file denunciations upon properties they are now working.

The Nation will reserve certain petroleum zones, to be hereafter designated, for the exclusive use and profit of the Government.

There will be promulgated as speedily as possible a fundamental law setting forth rates of taxes to be paid by exploiters of oil lands.

No provision is made in the present plans for com-

pensating present owners of valuable oil properties under Government concessions for the expropriation of their holdings or for the amounts expended by them in exploitation.

It has been specifically recommended by Minister Rouiux that the immensely valuable concessions granted by the Diaz government to the Mexican Eagle Oil Company, owned by Lord Cowdray and his British associates, in oil fields of Mexico under lease to Lord Cowdray and the concessions to the International Petroleum Company, which is one of John Hays Hammond's promotions, be annulled.

Minister Rouiux does not recommend cancelling the concessions held by the Mexican Petroleum Company and allied or subsidiary companies, controlled by the Doheny interests, who are Lord Cowdray's chief rivals in oil production in Mexico. Neither is any specific reference made to the different companies controlled by the Standard Oil Company.

Representatives of the principal oil companies say that if the petroleum lands of Mexico are nationalized they will be able to denounce their properties and go ahead with their work, their rights now enjoyed as concessionaires simply undergoing a transformation which will not be to their advantage, nor will it add to the security of their investments in Mexico.

It is understood that a protest has already been filed with the State Department at Washington by American investors who have put their money into Mexican oil lands in good faith.

Standard Buys Wells.

A deed recorded in Kern County has confirmed the reported sale of the Lost Hills holdings of the Vulcan Oil Company to the Standard. The consideration is reported as being \$260,000. The property consists of 101.2 acres of land on section 5,27-21, on which there are ten producing wells, flowing 400 or more barrels per month.

California Derrick

The Oil Authority of the Pacific Coast

PUBLISHED MONTHLY

—BY—

The California Derrick Publishing Company

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

It Tells a Wonderful Story.

There is a general hazy impression that the canning business of the Pacific Coast means the canning of fruits, and it is a matter of comment that fruit canning is but a part of the vast business that is carried on in the west in the tinning of food products. The February number of the Western Canner and Packer goes into an extensive resume of the statistics of canning, and its figures are not only interesting but in a measure startling. This issue, which marks the seventh annual statistical number of the periodical, gives an astounding array of facts and figures, and is worth the attention of everyone interested in the business of California and the Pacific Coast. The resume of the season's production is of interest to every business man, and it shows the enormous proportions to which the packing industry has reached. The most interesting article in the number is a review of the past year, which contains an analytical discussion of the propositions put forward by the new commission which has taken upon itself the regulation and sale of California products.

May Mean Lighter Cars.

The high price of gasoline may bring about a revolution in the automobile manufacturing industry. It is recognized that the expense of running a car depends much on the cost of gasoline, and as the heavier cars require vastly greater amounts of gasoline than the light ones it is but natural that buyers may turn to the lighter car. As a result of this, and if the price of gasoline continues high, probably the manufacturers will devote their energies to the building of cars that will require a minimum of gasoline. Taking 500 gallons annually as the average amount required for a car, the difference in the present price and that a year ago means an increase of an average expense to the individual car owners of \$50 a year for his motive power.

Already the high price of gasoline has affected the jitney business and there is a material reduction of the number of cars to be seen on the streets of all the large cities. Many owners of cars have laid them by temporarily, and advertisements in the daily newspapers indicate that owners are ready to dispose of their cars for other property.

Announcement.

On March 18, 1916, the Palace of Mines, P. C. I. E., will throw open its doors in welcome to the mining fraternity and the visiting public.

This building will be devoted exclusively to the display of exhibits from mining and oil properties and from the manufacturing and supply concerns intimately allied with mining industries.

The hearty co-operation of every man and organization interested in mining is earnestly solicited. Practically one-half of the available space has already been leased, without solicitation. We desire to fill balance of spaces with worthy, live exhibitors by March 18th, or as soon as possible thereafter.

If desirous of presenting the advantages of your district or proposition most attractively to the visiting throngs at the Exposition, let us know at once. Rates and full information will be sent immediately upon request.

Address all communication to "The Palace of Mines, P. C. I. E., San Diego, Cal."

Source of Capital.

There is considerable speculation regarding the increased supply of capital in the United States, yet if one stop to consider it will be seen that there is no mystery about it.

Not only has there been enormous receipts of gold from Europe during the past twelve months, but the mines of the country have been doing their share. There has come from Europe \$400,000,000 in gold in payment for American goods, and the mines have given \$100,000,000 more.

In addition to this several hundred millions have been released from bank reserves through the Federal Reserve Banking System. Taking it all together we have increased our loan possibilities fully \$5,000,000,000.

Notwithstanding the flood of prosperity which is rolling over the country money rates are low; there is little evidence of the unemployment that marked the early part of 1915; manufacturers and merchants are reaping a heavy harvest and getting good profits; on top of these it must be remembered that this year Americans are spending very little if any money abroad in travel.

Taking all these circumstances it is obvious that the United States could gradually buy back all of its outstanding obligations and securities held in Europe without causing a flurry on the stock exchanges of the country.

If the war continue much longer there is no question that these securities will be offered as security for war loans of a magnitude greater even than the ones already financed in the United States, for without adequate security our people will refuse war bonds that have nothing but the good faith of the countries offering them as backing.

Union Oil Trusteeship Planned.

There seems to be a rift in the clouds which have been lowering over the affairs of the Union Oil Company ever since John Garigues and the Stewart interests had their falling out. According to Garigues, both Lyman Stewart, chairman of the Board, and W. L. Stewart, his son and president of the company, know nothing about either the oil business nor about any other kind of business. On the other hand, Lyman Stewart accuses Garigues of being anything but what he represents himself to be, and accuses him of taking nearly a quarter of a million dollars right out of the treasury without giving an accounting for it.

Taking it all together, it is a nasty mess, and one that it will be well to have settled for the benefit of the thousands of stockholders who care nothing for the personal differences of the Stewarts and Garigues.

It would seem, however, that the attacks of Garigues are bearing fruit, for it is now announced by the Stewarts that a project is in process of development for doing away with the holding companies of the Union Oil and giving the stockholders of the company increased representation on the Board of Directors. This contemplates the organization of a Board of Control composed of nine members who will represent a majority of the stock holdings of the company and nominate the members of its directorate.

According to Lyman Stewart, about 100,000 shares of stock is already pledged to the plan. This represents 30 per cent of the total stock of the company. After it has been made clear that a majority of the holders of stock of the company will accept the plan there will be a selection of twenty-five men from whom the nine members of the Board of Control will be chosen. This Board of Control will be elected for seven years.

Havoc in the Oil Fields.

Two disastrous storms visited the oil fields of California during January and the result has been an approximate loss of somewhere near \$1,500,000 in property, and a setting back of the industry several months. The destruction to the derricks was unprecedented, especially around Coalinga, this being due to the fact that never before has there been a storm of sufficient magnitude to cause derrick builders to prepare against such an unusual force.

That this will mean no ultimate injury to the oil business is realized, but at the same time there will be much hardship experienced by the small producers who have suffered. The large companies which, of course, suffered greater loss, will soon have their properties ready for operation, but the men who have small means will not be able to recover so quickly.

The loss to the producers of oil means business for those who supply lumber and hardware for the derricks, and already many carloads of both have been sent to the stricken district.

One of the chief results of this storm will be a material reduction of stored oil, for many of the best producing wells will have to be shut down while the damage is being repaired. As the production has been below the demand for some time past, this will mean an immediate call for oil and a revival of operations in many of the independent wells that have not been affected by the storm.

Producers who have not been hurt are experiencing a feeling of relief as they see an immediate rise in price of the crude at well, and this hope has been borne out by the fact that the Standard has already announced an advance of 5 cents at the well in certain parts of the State.

It is possible, however, that this advance has nothing to do with the trouble in the field, for the price of Pennsylvania oil has also advanced 10 cents a barrel, and that of the Oklahoma field has advanced 5 cents. The fact is that oil is entirely too low and storm or no storm there would have come a natural advance in prices.

Oil Development Not Hindered.

That the storm damage in the oil fields of California served as only a slight check in development work is shown by the report of the Oil Department of the State Mining Bureau. Ten new wells are reported, which is near the high record mark, four of them are in the Kern River field and five in the Lost Hills regions. Wells in both of these districts are usually shallow and comparatively inexpensive. The Associated Oil Co. owns five of the wells and the Standard Oil Co. three. Seventeen wells, a number considerably above the average, were reported for test of water shut-off, five for deepening or redrilling and three for abandonment.

The advisability of oil operators spending money in the protection of their lands against water is clearly illustrated by two wells situated in Section 15, T. 32 S., R. 23 E., in the Midway field, which were recently abandoned and plugged according to specifications furnished by the State Mining Bureau, with the result that improved conditions are already reported at neighboring wells. Had it not been for the present State law the improper methods of plugging, which were actually under way, would have resulted in irreparable damage to surrounding property, valued at many times the cost of both the state supervision and the work of plugging the wells.

There are at present a number of companies in the Midway field operating, under lease from the Federal government, on about nine hundred acres of land located in the areas which were withdrawn from entry several years ago. These leases run until the question of title is decided, the royalty being held in escrow. The problem of protecting these lands from damage by infiltrating water has been greatly simplified by the action of the Chief of the Field Division of the U. S. Land Office, who is co-operating with the State Oil and Gas Supervisor.

New Drilling by Standard.

The Standard Oil Company is rigging up a derrick preparatory to drilling further in No. 1 well on section 5, 28-27 in the Kern field. The well was drilled to a depth of 2,000 feet three years ago, and then cemented. Section 5 is the farthest section west of the Kern River field proper upon which an attempt has been made to find oil. The section 5 well is two miles west and about four miles north of two wells completed by the Standard on section 27. These two wells have given sand trouble, but it is estimated that they give 150 barrels a day, each.

Standard Oil's Year

At the annual meeting of the stockholders of the Standard Oil Company, of California, all of the old directors were re-elected, and these immediately elected the following officers to serve for the ensuing year: D. G. Seofield, president; W. S. Rheem, senior vice-president; K. R. Kingsbury, W. S. Miller and F. H. Hillman, vice-presidents; R. J. Hanna, treasurer; H. M. Story, secretary.

President Seofield went thoroughly into the business of the company for the past year in his annual report, showing good results from the operations. The report in full follows:

To the Stockholders:

The balance sheet of your company as of December 31, 1915, is as follows:

ASSETS

Plant Account	\$65,834,281.98
Other Investments	99,369.36
Inventories	25,017,146.75
Accounts Receivable	5,293,155.17
Unexpired Taxes and Insurance.....	312,716.16
Cash	1,986,662.72
Total	\$98,543,332.14

LIABILITIES

Capital Stock Authorized. \$100,000,000.00	
Less Unissued Stock.....	50,313,344.65
Capital Stock Issued	\$49,686,655.35
Stock Premium Account	250,000.00
Accounts payable	3,754,413.77
Surplus	44,852,263.02
Total	\$98,543,332.14
Earnings for Year	\$12,974,655.12
Less Depreciation	3,444,709.49
Net Profits	\$ 9,529,945.63
Dividends Paid	4,968,665.56
Carried to Surplus	\$ 4,561,280.07

Your Board of Directors is pleased to present to the stockholders of the Standard Oil Company (California) the results of the business for the year 1915 as embraced in the Balance Sheet showing the earnings of the company for the year \$12,974,655.12. From this we have written off for depreciation in all departments \$3,444,709.49, leaving the net profits of the business, after depreciation, \$9,529,945.63. Dividends were paid to stockholders during the year at the rate of ten per cent per annum, amounting on the issued stock to \$4,968,665.56. \$4,561,280.07 has been carried to surplus account.

All the physical plant of the company has, as is our custom, been maintained in first class condition and efficiency.

During the year 1915 the crude oil production of the company from its own wells was 11,554,371 barrels, or a daily average of 31,656 barrels, against a production of 12,727,391 barrels, or a daily average of 34,869 barrels, for 1914.

Owing to the general conditions of field production and the business situation confronting us at the commencement of the year as a consequence of the European war, no effort was made to increase our own production until there was a reduction of our own and the general crude oil stocks, as during the year 1914, as you are aware, we had to erect about 8,000,000 barrels in tankage to take care of surplus oil stocks and this experience we did not wish to repeat in 1915. These producing conditions have been published, from time to time, in current issues of the "Standard Oil Bulletin" for the information of our stockholders, which renders repetition unnecessary.

Our net pipeline runs from wells for 1915 showed a daily average of 90,715 barrels, as against a daily average of 109,949 barrels for 1914.

Our own stocks of crude oil and its equivalent in storage December 31, 1915, were 26,682,064 barrels, an increase of 623,987 barrels over December 31, 1914.

During the year our plant account was increased in all departments by necessary new construction at an expenditure of \$4,126,309.74. Our sales department has been strengthened by the construction of twenty-three additional sub-stations and forty-seven automobile service stations at points where more economical distribution could be effected.

The steamer "La Primera" for the transportation of package goods to foreign ports was added to our fleet during the year and an order placed with the Union Iron Works, San Francisco, for the construction of a tank steamer of highest class with about 80,000 barrels capacity. This latter steamer will be launched in August next and is expected to be in commission shortly thereafter.

Of the accounts payable, the balance due the Murphy Oil Company on the purchase of its property was reduced to \$2,000,000. The remaining payments now run over a period of two years, and \$125,000.00 due on the purchase of the Monte Cristo Oil Company's properties is payable during 1916. These contract obligations carry no interest.

The company had no other indebtedness of any nature, except the current accounts for December, 1915, which were paid in January, 1916. The cash balance December 31, 1915, was \$1,986,662.72.

While during the year, the company has at times been somewhat hampered in its export business by lack of expected transportation, our business as a whole has been very satisfactory and with the improved conditions and increased prices for petroleum products we are anticipating a very prosperous year for 1916.

Owing to changed conditions by the falling off of production, crude oil prices at the wells have materially advanced, but our own inventories of crude oil and products in storage on December 31st last have been taken at their costs and the increased values will be shown as profits from time to time as they are disposed of.

During the year we added to our producing properties 4,260 acres, of which 1,460 acres are in fee and 2,800 acres in leasehold.

Peace and Gasoline

Those who are interested in the production and sale of gasoline are doing much speculating over what will happen to gasoline in the event of peace in Europe. According to Dow, Jones & Co., a high official in one of the great producing and refining companies, which has extensive foreign business, has analyzed the situation as follows:

"Despite the enormous war demand for gasoline and other petroleum products, I believe peace will result in a still larger consumption in Europe. Since a great new demand for gasoline has been created by the use of thousands of automobiles on the battlefields, it is assumed in some quarters that peace will mean a sudden let-up in consumption because of the enforced idleness of great numbers of these cars.

"Temporarily, perhaps, this will be so, but I believe that the greater part of the war machines will speedily find their way into commercial service. Several causes will combine to stimulate the commercial use of automobiles. To begin with, trade is bound to revive with great rapidity and with this revival will come the need of transportation facilities which can be supplied by automobiles. Horses will be scarce and motor cars will naturally take their place.

"It would not be surprising to see every available military car absorbed into commercial channels soon after the war ends.

"This increase in the use of automobiles after the war should be permanent and progressive, thus re-

sulting in a constantly growing demand for gasoline and lubricating oils.

"The demand for lubricating oil should also receive a big impetus from the industrial renaissance throughout Europe which is certain to follow the war.

"With such factors dominating the foreign market and with no signs of a let-up in the enormous domestic demand, it would appear that much higher prices for petroleum products are in progress.

"As to what will develop with regard to the production of crude oil, no one can predict, but provided the ratio of decrease in supply to demand continues, the finding of a substitute for gasoline will in future be the only solution of the high price problem. Kerosene will most likely fill the want when the time comes. Already much is being done in the way of experimental work to adopt kerosene as a motor car fuel. It is now being successfully used in heavy engines, such as farm tractors, etc.

"Europeans since the war have had their eyes opened to the adaptability of the American automobile engine to a low gravity gasoline. Some of the French makes of cars require 76 to 78 degrees gravity, whereas the American made motors use 60 to 62 degree gravity.

"I think American inventive genius may be relied upon to work out this problem successfully if gasoline prices reach a level where it becomes an economic necessity to use a cheaper substitute."

Gasoline and Crude Oil

From The Western Banker and Financier

Quite a deal of vituperative protest has been indulged in because of the advance in the price of gasoline and as usual the Standard Oil Company has come in for its share, which means the lion's share, of abuse because of the raise in the price of gasoline.

It is claimed, and not without some justice, that there should be a commensurate increase in the price of oil, of crude oil at the well, to meet this extraordinary increase in the price of gasoline.

Some four months ago an article in the California Derrick analyzed the gasoline situation and showed that by the new process of the manufacture of gasoline from crude petroleum a barrel of crude oil was worth \$3, when gasoline could be manufactured and sold at 9c a gallon.

If gasoline can be manufactured from crude oil and sold at 9c a gallon, bringing the value of crude oil up to \$3, it seems unreasonable that there should be an increase in the price of gasoline to 18c without a commensurate increase in the cost of the crude oil because there has been no increase in the cost of manufacture. There has been no increase in the cost of labor, there has been no increase in the cost in any way of the raw material, and the entire increase in the cost of gasoline to the consumer comes about from the increased demand.

It seems reasonable, therefore, that the producer of the crude petroleum should share in these increased receipts from the sale of the product.

It is a well recognized fact that the by-products of the crude petroleum in the manufacture of gasoline more than cover the cost of the petroleum and the cost of the manufacture of the gasoline, and this being true it does seem that the cost of gasoline should not be increased without a commensurate increase in the cost of crude petroleum at the well.

The Standard Oil Company, as is said above, has come in for the lion's share of abuse, but we must not overlook the fact that there are other oil companies which make gasoline. The Shell Company of California, the Associated Oil Company, the Union Oil Company, all on the Pacific Coast, manufacture gasoline. In addition to these there are a number of small gasoline makers, yet all of them "pass the buck" to the Standard Oil Company and say that because the Standard Oil has increased the price of gasoline they, too, must share in the profits. Like jackals they feast from the lion's kill.

The truth of the situation is that there is an exorbitant demand for gasoline. Not only in the United States by the enormously increased number of automobiles in use, but also by the extraordinary demand in Europe brought about by the war. So great, indeed, is this demand that it is almost impossible if not quite impossible for the manufacturing companies to supply the demand.

It is a well recognized fact in trade ethics that increased demand beyond the power of production

causes increased cost to the consumer and with all of the gasoline manufacturing plans in the United States running to their full capacity it is impossible to supply the demand for gasoline, consequently the consumer must bid for the first call and this brings about the rise in the price of gasoline. Under present conditions 18c a gallon and even 20c is not an exorbitant price for gasoline.

A feature of this enormous gasoline demand and production that has escaped the hysterical writers of the public press who see nothing but greed on the part of corporations in the increased price, is the fact that there is a steady advance in the price of crude oil at the well. This advance has been most marked in the East and Mid-Continent fields and is now being felt in the California fields. There is no question but what with the enormous consumption of crude oil in storage, it is but a question of a few months when all of the storage oil will be absorbed and the pumping of all of the wells will be insufficient to supply the demand for the crude oil at the well. As a result of this there can be but one end—crude oil will steadily advance in price.

Without posing as a prophet the Western Banker and Financier feels that it can safely predict that before the close of the year 1916 crude oil at the well in California will be bringing a dollar or more a bar-

rel. It is already bringing more than that in the Eastern and Mid-Continent fields and there is no reason why this advance should not reach California just so soon as the storage oil, or oil "above ground," has been absorbed.

It is not a question of greed on the part of any corporation. It is a question simply of an inadequate supply to meet the extraordinary demand, and while the advocates of governmental investigations shriek of the poor woman who uses gasoline in her cooking stove, it is an undeniable fact that cooking stove use of gasoline is of such a minute quantity in the extraordinary use of gasoline that we must go back to the manufacturer of the automobile for the instigation of the howl.

High gasoline of necessity means high crude petroleum. High crude petroleum in California of necessity means affluence to thousands of people in the State. The burden of this advance in price falls not upon the poor but upon those who are well able to stand it and in standing this high cost of gasoline they bring affluence possibly, competence probably, to thousands of widows and orphans and poor people who have invested in oil stocks of companies that heretofore have been struggling for a bare existence and that hereafter, under the increased valuation of their product, will be paying dividends.

Looks Like Good Business

It has been said by pessimists that the wave of prosperity has been stopped by the Rocky Mountains. They cite the reports of easy money that is being literally "shoveled out" in New York, and ask why it is that we are having none of the good times here. These pessimists evidently require the services of an oculist for the correction of their myopic view. They see the things far off, but fail to see those close at hand.

California is especially and peculiarly fortunate from a prosperity standpoint. Her gigantic crops have become the world's by-word. Her mines are being developed as never before. Her oil is being called for so rapidly that the above ground reserves are being diminished at the rate of 1,000,000 barrels a month. Her lumber mills are working over-time. Manufacturing enterprises are starting up all over the state. Her only lack is adequate shipping to reach the markets of the world.

A review of the industrial situation reveals the fact that within the past six months new organizations have been effected with California as headquarters, with capital amounting to close to two billion dollars.

A big combination of the oil interests of Doheny, with its \$200,000,000 capital, and the formation of the American International Corporation, with its capital of \$50,000,000, really means the coming of that much more money to the coast. In the reorganization of the General Petroleum Company there is a new capitalization of \$16,700,000, and the Chemical company inaugurated by the Fleishhakers means another \$3,000,000 with the option of the Ocean Shore Railroad bringing \$2,000,000, all swelling the total to \$246,700,000 in five companies.

In the industrial world the Union Iron Works has secured contracts aggregating \$25,000,000, and is em-

ploying between 4,000 and 5,000 men; at points along the eastern shore of the bay so many men are employed in the powder works and oil refineries that sufficient houses could not be found for them and more than 600 tents dot the hillsides around Pinole and Oleum.

The European war has necessitated the turning of American capital and intelligence to the manufacture of chemicals, and a \$2,000,000 company has been formed to extract potash from kelp, while another has enlarged its capacity to bring the vast deposit of borax that lies in Death Valley, out to supply the needs of the world. At Richmond the Standard Oil Company has been compelled to enlarge its plant for the purpose of manufacturing a medicinal oil which formerly was made nowhere but in Russia, and as an indication of the magnitude of this industry it may be said that the postage stamps on the first lot sent out amounted to \$10,000.

Successful experiments in the use of fuel oil in smelting have resulted in the erection of a big smelter and with the commercial success of this comes the long sought deliverance from a position rivaling that of Tantalus. We had the raw material and we had the fuel, but we did not have the method of bringing them properly together and as a result vast bodies of iron and copper ore were so much waste land. Now this will be an added industry and California will take her place in the sun as a manufacturing state.

The San Francisco Chamber of Commerce, through its industrial department, has just made public for the first time, the results of the campaign carried on during the Exposition, and even before the opening of the Exposition, to induce Eastern manufacturers to locate factories, branch factories, warehouses and Pacific

Coast headquarters in San Francisco and the bay region.

The result in detail is as follows:

Factories	4
Pacific Coast headquarters	23
In addition to the above:—	
New factories located in San Francisco, 1915.....	61
New factories in bay district with head offices in San Francisco	17
New offices, Pacific Coast headquarters located in San Francisco	123
Grand total	228

While the number of actual concerns that have located in this city since the Exposition is not large in comparison with the number of exhibitors, it must be remembered that many of these exhibitors saw the country west of the Rocky Mountains for the first time during 1915. There are many other Eastern concerns who contemplate locating in San Francisco this year or next. Every exhibitor had his eyes opened to the possibilities of this city and section and the fact that San Francisco is the undisputed financial, commercial and industrial metropolis of the Pacific Coast, and the natural distributing center not only for its back country, but by steamer to Alaska, Hawaii, Japan, China, the Philippines, Orient, Australia, New Zealand and the west coast of Mexico, Central and South America.

Slump in Oil Production.

The report of the Independent Oil Producers Agency shows stocks of crude oil at the end of January practically unchanged. The total production of crude, including oil used for fuel in the field, for the month of January, according to the Agency figures, was 6,936,785 barrels, a daily average of 223,767 barrels, as against a total output in December of 7,397,478 barrels, a daily average of 238,628, indicating a falling off of approximately 15,000 barrels a day.

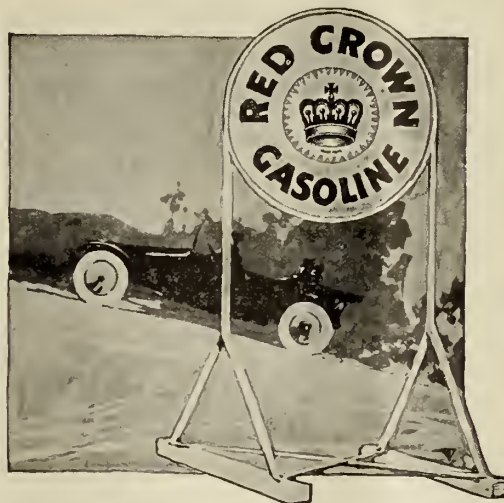
Government Starts Oil Suit.

Final hearings in equity against six of the large oil property holding companies in the Midway-Sunset district were begun in a special session of the Federal Court, which convened in Fresno, California, February 8th. The cases are being heard by Judge Robert S. Bean of Portland. The property affected comprises all claims upon which oil discovery was not made prior to the Taft withdrawal order of 1909.

Defendants in the suits are the Midway Northern Oil Co., Consolidated Midway Oil Co., American Oilfields Co., Ltd., David Kinsey Midland Oil Co., the Associated Oil Co., and others.

The judge has ruled that all evidence other than that tending to show or refute the right of the government to possession of the property is to be excluded at this hearing. Should the government succeed in establishing its right to ownership a motion will be made at once to appoint a referee, and to have testimony given before a master, showing the amount of oil produced in the fields. An accounting will then be asked for by the government and the companies involved will be called upon to pay to the government for what has been taken from the land.

It is of interest in connection with these cases that already the receivers who have been placed in charge of operating properties in litigation are complaining because they have no means of disposing of the oil that is rapidly accumulating on their hands.



THE PURE GASOLINE

Signs like the one pictured above are the motorists' guide to pure gasoline. They are displayed at all Standard Oil Company Service Stations, Agencies, and by dealers selling Red Crown, the Gasoline of Quality. Red Crown is the pure distilled, all-refinery gasoline, highest in carbureting qualities, in purity and uniformity. It gives you the miles you pay for, cleaner cylinders and steadier going.

Standard Oil Company

(California)

Patents Recently Granted.

The following recently granted patents of interest to the oil trade are reported expressly for The California Derrick by Joseph M. Nesbit, patent attorney, Park Building, Pittsburgh, Pa., from whom printed copies may be procured for 15 cents each:

Well bailer, L. L. Richard, Coalinga, Cal., 1,160,654.
Distillation of petroleum, W. P. Thompson, Birkenhead, England, 1,160,670.

Well Stuffing box, G. W. Church, Wichita Falls, Tex., 1,160,691.

Lampblack machine, W. H. Davis, Muncie, Ind., 1,160,862.

Derrick, Wm. O'Brien, Washington, Pa., 1,160,948.

Means for collecting and discharging solid matter when pumping liquids containing same, R. H. L. Pennell, Cairo, Egypt, and Jens O. Boving, London, England, 1,161,157.

Well casing perforator, A. B. Graham, Bartlesville, Okla., 1,162,601.

Stem holder for well drilling machines, A. S. Donze and R. L. Walton, St. Marys, W. Va., 1,162,144.

Well strainer, R. A. Ryrie, Camden, N. J., 1,162,810.

Deep well pump, Leonard Loop, Okmulgee, Okla., 1,163,024.

Process for refining petroleum and its products, F. W. Mann and M. L. Chappell, Berkeley, Cal., assignors to Standard Oil Co., 1,163,025.

Well sinking apparatus, M. T. Chapman, Aurora, Ill., assignor to The American Well Works, same place, 1,163,213.

Drill rod extractor, Wm. Schildwachter, Walworth, Nebr., 1,163,560.

Drill rod tap, Wm. Schildwachter, Walworth, Nebr., 1,163,561.

Process of and apparatus for distilling petroleum, Lyman Stewart, Los Angeles, Cal., assignor to Union Oil Co., Oleum, Cal., 1,163,570.

Shoe for drilling oil wells, E. E. Shaffer, Tulsa, Okla., 1,163,867.

Automatic drain and oiling system for deep well pumps, A. C. Paulmeier, Alameda, Cal., 1,164,012.

Well drilling register, N. M. Jones, Cranfills Gap, Tex., 1,164,002.

Packer for oil well pumps, A. J. McNallen, Gore, O., 1,164,655.

Deep well pump, L. A. Kracer, Bartlesville, Okla., 1,165,105.

Under reamer, C. T. Mapes, Crafton, Pa., 1,165,196.

Casing head, A. G. Heggem, Tulsa, Okla., assignor to The Oil Well Improvements Co., same place, 1,164,253.

Process for retaining the lighter or more volatile oils contained in the product of oil wells, etc., J. A. Snee, West Elizabeth, Pa., 1,165,458.

Feed device for drilling rigs (2), L. E. Shoup, Franklin, Pa., 1,164,722 and 1,164,723.

Process of the manufacture of lubricating oils and the like, Jean Rosen, Paris, France, 1,164,909.

Horn socket for oil and gas wells, E. E. Shaffer, Tulsa, Okla., 1,166,010.

Method of and apparatus for drilling oil and gas wells, E. E. Shaffer, Tulsa, Okla., 1,166,011.

Well drilling tool, J. V. Ridley, Sr., and A. G. Ridley, Newport, Ark., 1,166,153.

Apparatus for treating oil, C. J. Greenstreet, Webster Groves, Mo., 1,166,982.

Well Plug, G. G. Gilbert, Cushing, Okla., 1,167,289.

Pump, M. T. Chapman and M. C. Chapman, Aurora, Ill., assignors to American Well Works, same place, 1,167,886.

Well drilling apparatus, Ed Rand, Charleston, W. Va., 1,168,226.

Method and process of refining oil, G. M. Holbrook, Chicago, Ill., assignor to Armour & Co., same place, 1,169,154 and 1,169,155.

Cleaning oil wells, W. D. Huff, La Fayette, La., 1,169,261.

Deep well pump, F. W. Krogh, San Francisco, Cal., 1,169,266.

Method of making well tools, C. M. Heeter, C. C. Heeter and Joseph W. Heeter, Butler, Pa., assignors to C. M. Heeter Sons & Co., same place, 1,169,642.

Montebello Oil Company's Year.

The report of the Montebello Oil Company for the year 1915 reflects the prosperous condition of the petroleum industry in California. The Montebello is the largest concern operating in the Ventura field, and the net earning of the company from date of incorporation up to the end of last year, after deducting dividends and operating expenses and making allowance for depreciation, amounted to \$484,291.65. Since July 1, 1913, the company has been paying dividends amounting to \$120,000 a year. The company now has seventy-four completed wells, and the production during 1915 was the greatest in its history.

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Collapsing Strength of Steel Casing

The question of strength of casing to resist collapse is of vital importance to oil operators contemplating deep wells because it must be remembered that after the well is completed it will sometimes stand nearly empty and therefore the casing will be subject to the maximum pressure of the column of water outside it. Casing which is too light is the poorest kind of false economy.

When a test of the water shut-off is made, at a well, by the Petroleum Department of the State Mining Bureau, it is desirable to bail the well down as far as is safe, and the accompanying table showing the strength of various sizes and weights of casing is presented as a rough guide. The list is based on a great number of actual tests conducted by Pro. Reid T. Stewart (Vol. 27, Transactions American Society of Mechanical Engineers), and the figures for depth of water exerting pressure enough to collapse casing is the limit beyond which safe operations would not extend. A prudent operator would stop far short of the limit. It must be remembered that in this list no account is taken of such underground forces as are sometimes reported to have cut off and carried casing to one side and out of reach of the drilling tools. It should be further remembered that when any force is suddenly applied it is much more destructive than when gradually applied, and if a well were suddenly emptied of its fluid content, as in the case of a gas blow-out, the casing might fail under a water pressure that could have been supported if the well were emptied slowly by a bailer or pump. The depth of water, is of course, sometimes much less than the depth of the well and it is important to always note the fluid level.

Care of casing before it is used is of vital importance. Tests show that when the casing is slightly flattened, or out of round, failure takes place most easily. In handling casing it is frequently allowed to

fall and becomes bruised or dented, thereby inviting collapse when it is later used in a well.

Size Inches (Nom.)	Weight per ft. Pounds. (Nom.)	Collapsing strength Lbs. per sq. in.	Depth of water exerting pressure enough to collapse casing (Feet)
4 1/4	16	4715	10,880
4 1/2	13	2900	6,700
4 1/2	15	3605	8,320
5 5/8	20	3295	7,620
6 1/4	20	2345	5,420
6 1/4	24	3215	7,420
6 1/4	26	3650	8,420
6 1/4	28	4080	9,420
6 5/8	20	1980	4,570
6 5/8	26	3075	7,080
6 5/8	28	3490	8,060
6 5/8	30	3850	8,900
7 5/8	26	1945	4,480
8 1/4	28	1660	3,840
8 1/4	32	2150	4,960
8 1/4	36	2635	6,080
8 1/4	38	2880	6,640
8 1/4	43	3510	8,100
9 5/8	33	1285	2,970
10	40	1425	3,290
10	45	1795	4,140
10	48	2025	4,680
10	54	2510	5,800
11 5/8	40	835	1,930
12 1/2	40	500	1,150
12 1/2	45	750	1,730
12 1/2	50	1010	2,330
12 1/2	54	1215	2800
13 1/2	50	650	1,500
15 1/2	70	795	1,840

Sailor Becomes Oil Burner

The Edward Sewell, a four masted steel bark, one of the fastest sailing vessels ever built in this country, is to be converted, after her next voyage, into an oil burning steamship. She is 322 feet long 42.2 feet wide and 25.2 feet deep. She has a tonnage of 3206 gross tons, carries 324 sails and was built in 1899 at Bath, Maine. She is at present making a trip from New York with a cargo of oil.

New Gusher Brought In.

Report from Taft says that No. 61 well of the Kern Trading and Oil Company, on section 1, 32-23 came in with a flow which went high over the derrick and showered oil over the county road for a great distance.

No. 61 well was drilled within a few hundred feet of the former No. 39, which came in two years ago with a flow of 40,000 barrels daily. In drilling 61 the drillers looked for another gusher and took every precaution possible with the result that although the well flowed in the air for a short time it was easily controlled. It is now shut in with the production being run to the gauge tanks nearby.

Pipe Lines Do Well.

Financial statements from all but three of the Eastern group of pipe lines indicate the adverse effect of twelve months' operation under the reduced rates for the trunk line business. The falling off in gathering line business in the Eastern fields was a contributing factor to the shrinkage in net profits. As a result of the twelve months' tryout of the new carrying rates, there is likely to be some adjustment of the tariffs. The suggestion that all the Eastern lines follow the lead of National Transit Co., and increase gathering line rates does not meet with general approval, as that course might put all the burden on the Eastern producer. A move to increase carrying line charges, which would bear equally on producers and marketers, East and West, is more favorably considered.

The salient feature of the pipe line statements is that despite shrinkage in earnings, the companies have been able to strengthen their cash position, which would indicate that future dividend reductions are not likely.

California Concentrates

The Martin and Halloran Oil Company has incorporated with headquarters at Los Angeles. The capital is placed at \$10,000. The incorporators are: M. R. Martin, Jr., T. B. Halloran, Mary Halloran and Francis Martin.

G. J. Hansen, of the Combined Oil Company, is in the field near Taft looking after the installation of three derricks to replace those destroyed by the storm.

The M. & M. Oil Company, of San Diego, has incorporated with a capitalization of \$100,000. The incorporators are: Kit Carson, M. M. Gordon, C. A. Mayee, Dr. G. A. McGinnis, H. A. Houser, E. J. Hemming, W. H. Weiley, Clarence Reese, M. M. Cowden and C. R. Turner. The company will develop a gas well recently reported to have been opened seven miles northeast of Cardiff. It is planned to spend about \$30,000 on the development work.

The crescent Petroleum Company, of Fresno, has incorporated, with a capitalization of \$50,000. The incorporators are: C. A. Hively, R. C. Baker, Albert Levy, Burrell Jesse and H. H. Henshaw, all of Coalinga.

A rich flow of oil is reported on the property of the Pacific Improvement Company, about two miles out of Monterey. No details of the discovery have been given out except that the oil is of good quality.

The Kern Trading and Oil Company is preparing to increase its production very materially in the Taft district, and is arranging to drill many new wells.

The Standard Oil Company of California has asked permission of the California Railroad Commission to issue \$24,843,300 as a stock dividend of one-half share

for each share held by stockholders. This dividend is from a surplus that has been accumulating for the past fifteen years.

The Sauer Dough Oil Company's annual report shows dividends paid in 1915 amounting to \$59,850. The average price received for its oil was only 37.8 cents a barrel.

The Kern Trading and Oil Company has entered into contracts to have a hole drilled on section 1, 20-15, in the Lost Hills district, with rotary outfit.

Baker & Henshaw cemented off the water of well No. 1, section 12, 26-20, Lost Hills district, at 400 feet with 12½-inch casing. The well will be finished up at 550 feet with 10-inch casing.

The Hale-McLeod Oil Company is soon to drill a new well near Taft.

The Interstate Oil, Gas, Mining and Refining Co., Wagoner, Oklahoma, and Phoenix, Arizona, has been incorporated with a \$5,000,000 capitalization.

The Caribou Oil Company is preparing to reenter the dividend paying list.

The McPherson Oil and Fuel Company, of Las Vegas Nevada, has incorporated with a capital of \$2,000,000.

The Associated Oil Company is preparing to change its valley pipe line from a rifled to a hot carrier, with great increase in capacity.

The White Star Oil Company, operating in Little Sespe Canyon, has paid a dividend of ½ cent a share.

The Associated Oil Company is preparing to drill sixty-eight wells in the Kern River field. It is said the company will also begin active operations in the McKittrick field shortly, drilling a number of new wells.

Rule on Income Tax on Dividends.

Commissioner of Internal Revenue Osborn at Washington recently issued the following revised ruling regarding income tax on dividends:

Cash dividends or their equivalent paid from the earnings or the established surplus or undivided profits of corporations, joint stock companies, or associations, and insurance companies, if declared and paid on or after March 1, 1913, constitute taxable income in the hands of shareholders or beneficiaries when received, and should be returned when the total net income of any individual is in excess of \$20,000, inclusive of such dividends, and the additional tax should be paid thereon as on income for the year in which such dividends were received, without regard to the periods in which the profits or surplus were earned or the period during which they were carried as surplus or undivided profits in the treasury or on the books of the corporations, etc.

Stock dividends paid from net earnings or the established surplus or undivided profits of corporations, joint stock companies or associations, and insurance companies, are held to be the equivalent of cash, and to constitute taxable income under the same conditions as cash dividends.

T. D. 2163 of February 18, 1915, is hereby revised, and all rulings or parts of rulings heretofore made which are in conflict herewith are hereby revoked.

New Lost Hills Development.

Much new work is in progress in the Lost Hills district, according to advices received by the California Derrick from Coalinga.

The Dudley-Dudley Oil Company has material on the ground for one rig on section 5, 27-21; cable, tools and one rig on section 9, 27-21; rotary. Material has been ordered and is now being hauled for twenty-five wells. This will be distributed over the various locations of the company, which controls about 9,000 acres of oil land in and about the Lost Hills district. The company expects to drill up all of its proven territory as fast as it can do so. When this work is in full swing the management will run about six strings of cable, tools and rotary.

The General Petroleum Company will drill up its holdings on section 5, 20-15, being the southwest quarter. It is reported that two strings of cable tools will be run as soon as the company has completed its arrangements, as much of the material required is on the ground or ready to haul out.

The Coalinga Mohawk Company, on section 12, 20-15, is down about 3,240 feet with its No. 7 well, which is being drilled with a rotary. The 10-inch will soon be landed, as the manager looks for pay sand at about 3,900 feet.

Union Oil Can Sell Bonds.

Commissioner of Corporations H. L. Carnahan has permitted the sale of \$4,000,000 of 5 per cent twenty-year sinking fund bonds of the Union Oil Company of California, to be sold to net the company not less than 87½ per cent of par. These bonds are a part of the \$20,000,000 issue authorized by the company in 1911, of which \$11,900,000 were issued and \$1,926,000 subsequently retired. Some of the outstanding bonds are held as collateral to secure the payment of 6 per cent serial gold notes made in 1913. With the proceeds of the new issue the company will retire the balance of the outstanding 6 per cent notes, amounting to about \$1,000,000, and will use the remainder to reduce outstanding indebtedness.

Mexican Petroleum.

Much speculative interest has been revived in the Mexican Petroleum Company, not only because of the report of the discovery of a new gusher that is said to be the biggest on record, but also through the formation of the \$200,000,000 Pan-American Petroleum Company, and the report that this company will soon receive enormous European contracts. The Mexican Petroleum property is considered one of the best in the world. Casiano No. 7, its big producing well, is looked upon as a wonder by oil men. It has produced close to 50,000,000 barrels of oil and shows no signs of diminishing. This well at full flow would give Mexican Petroleum a daily output of 200,000 barrels, but the well is restrained, owing to lack of storage facilities. During the fifteen years of the company's existence it has produced 57,300,000 barrels of oil. The production of 1915 amounted to 8,135,000 barrels.

Mexican Petroleum Doing Well.

The new refinery of the Mexican Petroleum Company at New Orleans was scheduled to be opened for business March 1st. The big refinery has a capacity of 6,000 barrels of crude oil a day, and storage facilities for 440,000 barrels.

Cerro Azul No. 4 of the company, brought in on February 11th, with a flow of more than 100,000 barrels a day, has been successfully capped. About 800,000 barrels of oil was lost before it was capped. The oil from this well will be pumped through pipe lines to tankage at Tampico. This well is the only one opened of five drilled in the spring of last year. It proves the wealth of oil in the Cerro Azul field, just as the Casiano No. 7 does in the Casiano pool.

Casiano No. 7 has already produced close to 50,000,000 barrels. Its maximum daily production is placed at 70,000 barrels, or 30,000 less than the Cerro Azul No. 4.

With the opening of the new well the production of the Mexican Petroleum reaches the high figure of nearly 200,000 barrels a day.

Wyoming Oil Industry Extended.

Nature's provisions for the comfort of mankind in seemingly inhospitable regions are sometimes well hidden and are found only after the scientist and the venturesome prospector have come to the aid of the settler. In the Bighorn Basin of northern Wyoming lack of water and lack of fuel are conspicuous features and the sagebrush desert, where the temperature ranges from 32 degrees below zero in January to 105

degrees above zero in July, where the annual rainfall is less than 6 inches, and where timber is scarce, is not attractive to the settler.

Some years ago three wells drilled in a dome or upfold of the rocks near Basin, in Big Horn County, struck a strong flow of gas, and Greybull and Basin now have the distinction of being the only towns in Wyoming that are supplied with natural gas.

Field work done by United States Geological Survey parties has resulted in reports that show the position of the rock folds, and drilling has resulted in the discovery of oil. Fifty-two wells had been drilled near Basin up to last October and more than three-fourths of them yielded oil or gas in commercial quantity.

In order to drill some of these wells water had to be hauled in wagons from the river, miles away. Water suitable for domestic use was found in many of the wells.

A report on oil and gas near Basin, Big Horn County, Wyoming, by Charles T. Lupton, has just been issued by the U. S. Geological Survey as Bulletin 621-L.

Oil Field News.

The Standard Oil Bulletin says: The storms of January 17th and 27th, which destroyed 1870 derricks in the San Joaquin Valley fields, are largely responsible for the low production record during January. The average daily output, 223,364 barrels, represents a daily loss of 13,229 barrels as compared with December figures.

While the effect of the storm will be manifest for some time, it now appears that the production loss will not be of the magnitude that was first anticipated.

January shipments were far below normal and averaged daily but 226,950 barrels. The small shipments were due chiefly to the interruption in railroad service occasioned by the heavy rains.

Shut-in production remains constant at 12,000 barrels daily.

The thirty-five wells completed during the month show an initial production of 4,395 barrels daily.

Summary of developments and production for all California fields for January is as follows:

FIELD	New Rigs	Drilling Completed During Month	Abandoned	Wells Producing	Production Per Day
Kern River	4	7	6	1,683	22,810
McKittrick	1	2	3	276	6,112
Midway Sunset	6	47	11	1,428	98,510
Lost Hills-Belridge	9	22	6	256	11,112
Coalinga	2	13	3	803	30,911
Lompoc and Santa Maria	3	6	3	229	10,535
Ventura County and Newhall	17	..	..	444	3,048
Los Angeles and Salt Lake .....	..	..	..	691	4,711
Whittier-Fullerton	4	66	3	620	35,383
Summerland .....	..	..	..	112	155
Watsonville .....	..	..	..	5	75
Totals	29	180	35	6,547	223,364
Total crude oil stocks, January 31, 1916, 57,035,887 barrels.					
Total shipments from fields, January, 1916, 7,035,436 barrels.					

Advance in Price of Fuel Oil.

Effective February 16, 1916, Standard Oil Company (California) advances prices of fuel oil 5 cents per barrel of 42 gallons, at all Pacific Coast points.

This makes the present price on San Francisco Bay 90 cents per barrel.

Shell Extends Holdings.

The recording of a deed at Fresno shows that the Shell Company is increasing its land holdings. The deed is for a quarter section of land of the Hazeltine Oil Company near Coalinga, and the purchase price was \$336,000 for the 160 acres.

At a special meeting of the stockholders of the Shell Company of California, the proposition to increase the capital stock was approved and ratified. This increase means that from a capital stock of \$35,000,000 divided in 350,000 shares of the par value of \$100 each, of which \$10,000,000 divided into 100,000 shares of a par value of \$100 each is preferred stock, the capitalization is increased to \$45,000,000, the increase being entirely common stock, leaving the preferred at the original figure.

State Control Favored.

There seems to be a general feeling among independent oil operators that it will be a good thing for the industry to have the oil trade regulated by the State Railroad Commission. L. P. St. Clair, president of the Independent Producers Agency, said that the members, two years ago, placed such a proposal before the Legislature. At that time the measure was opposed by the public and was defeated. In speaking of the matter Mr. St. Clair said:

"The placing of the oil industry under the control of the State Railroad Commission is the only logical solution of the problem. It would prove a benefit to the consumers as well as to the producers of petroleum products of California. I am of the opinion that all oil companies would welcome regulations by the Commission. It would insure placing the industry on a more stable basis. At the same time, with the Commission to represent them, the people would be amply protected."

General Petroleum Reorganization.

The final plans for the reorganization of the General Petroleum, as given out by the protective committee, are practically as outlined in preceding numbers of the California Derrick. The plan contemplates the purchase of the General Pipe Line Corporation through the acquisition of all the stock of that concern not already owned by the General Petroleum.

Preferred stock in the new company will be limited to \$3,212,160, which is the aggregate face value with accrued interest of General Petroleum's outstanding gold notes secured by pledge of \$6,000,000 of General Petroleum's first mortgage bonds.

Common stock will be limited to \$13,490,176. Outstanding 6 per cent bonds and all liens on lands of the company are to be paid. Mortgaged property of the company will be sold by the Mercantile Trust Company, of San Francisco, and purchased by the protective committee.

Reports from Maricopa say that the once famous gusher well of the American Oilfields Company, Ltd.'s Midland division, on section 32, 12-23, known as the No. 4 well, which for a long period produced at a rate of better than 12,000 barrels a day, and then stopped its flow, is again on the producing list with a record of 1,000 barrels a day. The oil contains some emulsion but this is rapidly clearing up, and it is expected to bear only a small percentage of impurities in a short time.

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Closed Pressure of Gas Wells

A. S. COOPER, E. M.

Closed rock pressure of gas wells have for a long time been considered a mystery, and has given rise to several theories, and much controversy. The following may throw some light on the subject.

Three theories are entertained as to the cause of pressure in a gas yielding well.

1st—That it is due to hydrostatic pressure, the percolating water which enters the porous stratum at its outcrop forming the head.

2nd—That it is caused by the gradual accumulating gas having no opportunity to escape, and being thus brought into a highly compressed condition.

3rd—That it results from the weight of overlying strata.

Experience has proven that generally the greater depth of the well the greater the closed pressure of the gas. As hydrostatic pressure is the only known pressure that increases as greater depths are reached, it would appear that there must be some relation between hydrostatic pressure and gas pressure.

In a formation where the gas and oil rest upon water under hydrostatic pressure the closed pressure of an oil, gas or oil and gas well is in accordance to the difference between the existing hydrostatic pressure, and the weight of the column of oil, gas or oil and gas in the well or in the well and formation.

These conditions and pressures exerted are shown in Figs. 1, 2 and 3, which show sections through the earth, and a diagrammatic explanation of the same. In these computations the weight of the gas being practically nil, is not taken in consideration, and the weight of pure water is considered only. These pressures can be verified by experiments in the laboratory.

It is possible that in a reservoir containing gas, where the gas is being withdrawn from the reservoir faster than water enters the same, so as to maintain a constant hydrostatic pressure, that the closed pressure of the well would be owing to the expansile pressure of the gas. The initial pressure of the gas in such a field would rarely exceed the hydrostatic pressure.

In case a volume of gas was suddenly generated the pressure would be owing to the pressure of the gas, until an equilibrium was established. Nature is constantly endeavoring to establish an equilibrium be-

tween the pressures of oil, gas and water in a formation, which equilibrium is constantly being disturbed by the introduction of water, oil and gas into the formation.

That fissures are suddenly opened for the ascent of gases, and fluids is shown by the fissures that are formed by orogenic movements producing earthquakes.

During the violent earthquakes of 1902, which occurred in the chain of hills between the Santa Ynez river and the Los Alamos creek, Santa Barbara county, gases were explosively forced from beds of shales near Laguna Seca, and many small fissures

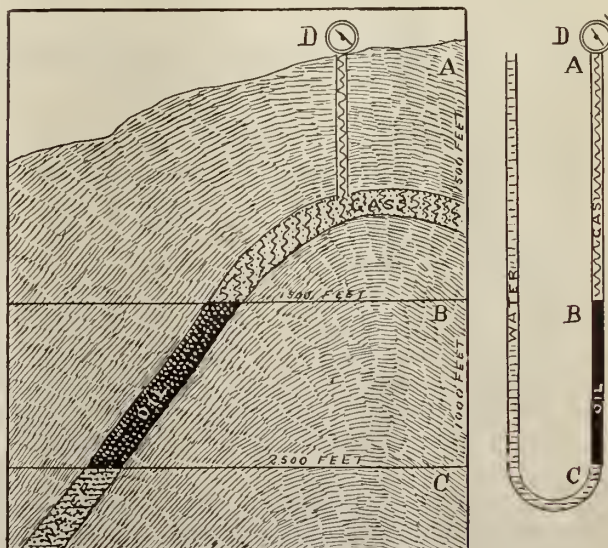


Fig. No. 1

Depth of water column, A, to C., 2,500 feet.

Weight of water column per sq. inch

1,085 lbs.

Depth of oil column, B to C, 1,000 feet.

Weight of oil column, 25 deg. B., per sq. in., 390 lbs.

Depth of gas column, A to B, 1,500 feet

Weight of gas column practically nil.

390

1,085

390

695 lbs.

Static pressure per square inch on gauge D

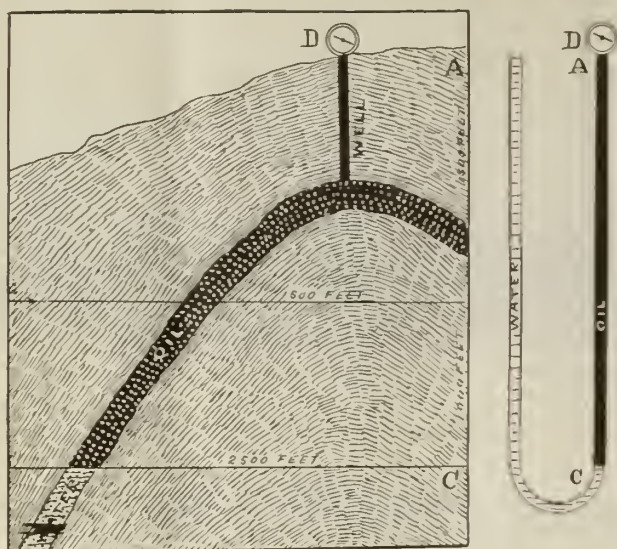


Fig. No. 2

Depth of water column, A to C, 2,500 feet

Weight of column of water per sq. inch

1,085 lbs.

Depth of oil column, A to C, 2,500 feet.

Weight of oil column, 25 deg. B, per sq. in, 975 lbs.

975

1,085

975

Static pressure per sq. inch on guage D

110 lbs.

were opened. The rocks forming these hills show the action of heat, solfataras, hot sulphur water, petroleum at a depth of 2,000 feet having a temperature of 127 degrees F., subsidences, soluble-silica shales, and metamorphosed rocks.

During the earthquake of 1906 many fissures were opened along the San Andreas Rift, and elsewhere.

It is possible that immediately after the generation of natural gas it might for a limited time exert its own pressure, but in a formation consisting of capillary and subcapillary openings and containing water, oil, and gas this pressure, in the course of time must find equilibrium by diffusion and otherwise.

In Fig. 3 the gas pressure is largely in excess of that, that could be accounted for by the depth of the well. This is owing to the fact that a tall column of gas occupies a fissure. Generally in this case if the well is kept closed for some time, this abnormal pressure will rapidly be reduced as the fissure fills with water.

The escape of vast volumes of gases under great pressure from volcanic vents is certainly caused by heat and not by hydrostatic pressure. Unquestionably if gas is generated by chemical reactions or by heat within a sealed reservoir the gas will produce its pressure. That heat exists at no great depth in California is shown by abnormally hot water, oil and gas at shallow depths, and heated gases coming from wells and escaping from solfataras.

According to the above theory, by the sudden crea-

tion of a large amount of gas, a nearly vertical fissure may be filled with gas which would produce an enormous pressure in the upper part of a formation, where before the generation, and entrance of the gas only a small hydrostatic pressure existed. This is also true of the sudden generation and entrance of a light oil into a fissure, approaching verticality, only the pressure would not be so great as in the case of gas.

That the pressure exercised in the upper part of a gas column contained in a fissure, Fig. 3, being greater than the hydrostatic pressure in the adjoining strata, the gas will drive the water from the porous strata, and if the gas is followed by oil the oil will enter the porous strata, until the strata becomes clogged with the oil by it becoming attached as a film to the walls of the openings in the rock.

When gas and water are in contact in the same reservoir, in which water is free to enter or escape, the hydrostatic pressure and the expansile pressure of the gas will be the same.

The expansile pressure of the gas present in solution with the water or oil must be the same as the expansile pressure of the free gas, consequently when the pressure is reduced the gas will be liberated from its solution with the oil or water, and as there is generally an ocean of water the amount of gas liberated from solution will be large.

In case of an earthquake and its attendant phenomena, uplifting, subsiding, etc., the pressure might and is probably caused by rock pressure, and such pressure will prevail until the equilibrium of the pressures is restored.

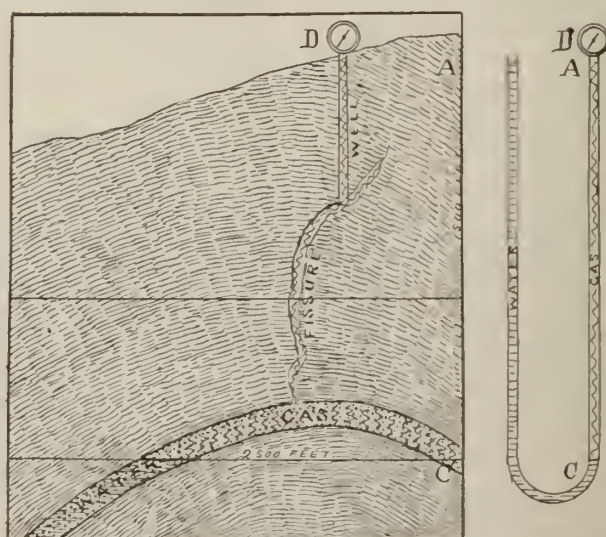


Fig. No. 3

Depth of water column, A to C, 2,500 feet

Weight of column of water per sq. inch

1,085 lbs.

Depth of column of gas A to C, 2,500 feet

Weight of column of gas, A to C, practically nil

Static pressure per square inch on guage D

1,085 lbs.

Development Work Being Rushed

Just what the large oil operators think of the situation in California is best shown in their works. Any one who has kept posted on new drilling operations during the first months of 1916 knows that it is the big operating and marketing companies that are now doing the prospecting. The Standard, the Associated and the Union Oil companies which have called upon the small independent producer for their supplies, are now doing an immense amount of development work, and of the 66 new wells started during January and February of this year a great majority of them were put down by the big companies.

Oil and Gas Surveyor R. P. McLaughlin, of the State Mining Bureau, estimates that there will be at least 400 new wells added to the producing list during the present year, and that there will be expended on this development not less than \$4,000,000. If there be error in McLaughlin's calculations it must be on the side of conservatism, for he bases his estimate on an average cost of \$10,000 a well. There are many wells that have been put down for \$10,000, but when the driller goes for deep sand that price will be doubled. It is a conservative estimate that there will be nearer \$6,000,000 expended in development work this year.

It must be remembered that production in California is now below consumption, and there will be an insistent demand for more oil. The visible stocks above ground are being rapidly depleted, and the only conclusion must be that prices for crude at the well

are bound to go up. When the start is made it will mean the drilling of many new wells by independent operators.

New fields are being sought for all the time, and already the Derrick is in receipt of good reports from districts that have not been considered as likely oil fields. With the discovery of a new field in the hills east of the Sonoma valley, with a high grade oil, there will come again the boom days of the earliest petroleum discovery, and California will take her place in the sun again.

It is no visionary dream that brings this thought, but actual reports on a discovery that seems to be authentic. It is reported that oil bearing sand is to be found clear across from Sonoma county through Tehama and Shasta to Modoc, and that the oil is of at least 35 per cent gravity.

If these reports be true, and if development shows that we have a field such as this, it will mean a change of base for the big operators and the southern wells will feel the adverse effect.

Oil operators, geologists and even "Divining Rod Men" have concurred in the belief that somewhere in California would be found a strata of high grade sand which would bring forth oil in such abundance that our present fields would look small, but men have been afraid to venture, and the result is that until some daring prospector convinces men with money that he has found the place, there will be no systematic efforts to exploit new fields.

Sixty Million Dollar Lawsuit

What lawyers say is the biggest lawsuit ever tried before California courts is in progress in Los Angeles, involving the Union Oil Company, the Union Provident and the Union Petroleum Company, and having for its object the ousting from management of the Union Oil Company what is known as the "Stewart interests."

The suit is being brought by stockholders who have joined together in a protective association, and which is instigated, or, it may rather be expressed, generalised by John Garrigues, the former treasurer of the Union Oil Company, and who claims to have discovered much wrong doing in the management of the company by Lyman Stewart and his son J. L. Stewart, president of the Union Oil Company.

Many questions vital to the corporate laws of California are involved, and this especially applies to holding companies and their powers. To carry forward the contentions of the controversy there is an array of legal talent that means that every point will be fought out and every possible technicality invoked to gain success.

What the general public is interested in, so far as this suit is concerned, is the question of the power of the individual stockholders. It is conceded that there is a majority of the stockholders in the Union Oil Company who have absolutely no voice in the

operations or management of the affairs of the company, because of the fact that through the Union Provident and the Union Petroleum Corporation, the Stewart interests have a tight rein, and run things to suit themselves.

On behalf of the Stewarts is the fact that Lyman Stewart and his brother are the discoverers of the oil which is the foundation of the Union Oil Company, and it is due to the management of Lyman Stewart that the company has been brought from a prospecting company to a \$34,000,000 corporation, covered by two holding corporations, one with capitalization of \$18,000,000 and the other of \$8,000,000.

The suit hinges around an injunction brought on behalf of the stockholders protective association against the Stewarts, restraining them from voting stock at the annual meeting, held by the holding companies, and from spending money of the corporation for the perfecting of a voting trust agreement to perpetuate their power in the event the holding companies are dissolved.

The theory on which this injunction is embodied in the following points:

1—That holding companies are against the public policy, and in actual practice work a fraud on the stockholders of the corporations they control by reason

of the fact that the voting power of the stockholder is not commensurate with his liability.

In this connection it will be shown how the Stewarts owning an equivalent of an eighth of the total issuance of the stock, absolutely control the corporation, elect a board of directors of their own choosing and dominate the affairs and dictate the policy of the concern. The Stewarts' pool represents an investment of approximately \$4,100,000, as against a total issuance of more than \$34,000,000 worth of stock. It will be claimed that this arrangement is inequitable and illegal, as the Stewarts are liable for only an eighth of the debts contracted under their management, while maintaining a voting power of more than a majority.

2. The holding company arrangement prevents cumulative voting, which is expressly permitted by the law of the State.

3. Holding companies, incorporated for fifty years, virtually extend the life of a proxy for fifty years, whereas the statutes limit a proxy to seven years.

4. Finally, that holding companies are illegal in California for this reason: The law provides that corporations may be organized for any "lawful business," and the holding and voting of stock in another corporation for the purpose of maintaining a control with less than a majority interest is not a "business" and certainly not a "lawful business" within the meaning of the law.

On the other side the reliance of the defense lies in the following two main points:

1.—That all corporations must have a stable policy, and a holding company makes possible such a stable policy, and is therefore for the best interests of all the stockholders.

2. That the Stewarts acted in good faith and in the interests of all the stockholders in the formation of the holding companies.

In this suit it is also determined to probe deeply

into a number of things which have become "mysteries" in the annals of the Union Oil Company, among them being the payment of \$1,000,000 on the DeSabra option, and also the question of how much money was received by the Bible Institute from Lyman Stewart, and why it was paid over. It is claimed by the Stockholders Protective Association that this was a large amount of money rightfully belonging to the stockholders, used without their consent or knowledge and is said to be about \$1,000,000.

Religion seems to be playing quite a part in the controversy between the Stewarts and Garrigues, for while Garrigues charges that Stewart used corporate money to serve private ends in helping the Bible Institute, Stewart sneers at Garrigues because of his adherence to Theosophy.

Giles Kellogg, secretary of the Union Oil Company, who was to have been one of the most important witnesses for both sides of the controversy, died suddenly at Santa Barbara just after he was subpoenaed. A large number of men high in financial circles have been cited to appear as witnesses, and many questions of financing an oil company will be brought to light. Among those who are expected to testify are: Stoddard Jess, president of the First National Bank of Los Angeles; J. A. Graves, vice-president of the Farmers and Merchants National Bank of Los Angeles; J. C. Drake, president of the Los Angeles Trust and Savings Bank; M. N. Avery and W. E. McVay, president and vice-president of the German American Trust and Savings Bank of Los Angeles; J. C. Torrance, formerly president of the Torrance, Marshall & Co., brokerage firm; officers of the Los Angeles Stock Exchange and other prominent business men.

According to those in position to understand the situation it is certain that no matter what the decision may be in the Los Angeles court, the matter will not be settled until it has been taken to the highest court of last resort, the Supreme Court of the United States.

The Gasoline Situation

Between the hysterical yelping of the demagogue and yellow newspaper, both trying to cater to the few men who cannot afford an increase of price of fuel for their automobiles, and the claims of the production companies, there is wide divergence regarding the gasoline situation.

If we were to believe the first class we would imagine that the whole country is going to the deminution bow-wows because gasoline has gone up to 30 cents a gallon in New York and to 19 cents in San Francisco.

If we believe the second class we must believe that prices are regulated by supply and demand, and as that is an axiom in business it is probably much nearer the truth than the yawping of the old time corporation baiters.

Gasoline has advanced in price because there has been a diminution of supply and increase in demand. Several causes have determined the increased demand, not the least of which has been the war in Europe which has stopped the manufacture over there and

has brought about an excessive demand because of motor transportation in unheard of magnitude.

In addition to this extraordinary increase because of an extraordinary condition, there has been a wonderful increase in the demand in the United States because of the vast increase in operating automobiles, and in the great increase in the use of the gasoline engine.

Taking these two causes alone into consideration it would seem that there is a real and valid excuse for the advance in the price of gasoline. But according to well posted oil men this advance has now reached its height, and will not go above present figures. It is pointed out that new development work on a large scale is under way in every American oil field, and extensive preparations are being made for active drilling operations. Old wells are being cleaned out and put on the pump and the production is being increased rapidly all over the country. Not only is there an increase in the production of crude oil, but there is a favorable outlook for increased production

of gasoline by cheaper methods and improved refining ideas. Several companies are installing the Rittman, Burton and other new processes which make possible the extraction of a much larger percentage of gasoline from the crude than has heretofore been possible.

The Independent Producers Agency in California is now working on plans that will culminate in the erection of a plant in which the Rittman process will be used. Under this process it is estimated that there can

be extracted from 30 to 40 times as much gasoline from the crude than has heretofore been possible.

Recently the Bureau of Mines at Washington gave out an official statement, not naming the field, in which it was shown that actual operations with the Rittman process had been most satisfactory. It was announced at the same time by the Bureau of Mines that the Rittman process had been granted to ten companies.

Gasoline Exports Below Normal

Producers, shippers, buyers and users of gasoline have all had a try at solving the cause for the increased price of this commodity, and the consensus of opinion has been that the extraordinary export demand is to blame. The New York Journal of Commerce has spent considerable time to the investigation of the subject and gives some remarkable figures, embodied in the following resume of the situation:

The total exports of crude and refined oil in 1915, according to the government figures, amounted to 2,329,755,617 gallons, an increase of almost 100,000,000 gallons over the total for 1914. The amount exported in 1914 was 2,240,033,652 gallons; in 1913, 2,136,565,721 gallons. In two years, then, there has been an increase of approximately 200,000,000 gallons, slightly less than 10 per cent.

Exports of crude oil, gasoline, illuminating oil and residuum were considerably less last year than in 1913. Exports of gas oil and fuel oil and naphthas, except gasoline, were approximately twice as large as in 1913. Exports of lubricating and heavy paraffine oil showed some increase. The following table shows the exports during the three year period:

	1914	1915
Crude oil, gals.	124,735,000	158,263,000
Gas and Fuel Oil	634,298,000	799,646,000
Illuminating Oil	1,010,449,000	836,998,000
Gasoline	162,669,000	112,560,000
Lubricating Oil	191,647,000	239,719,000
Naphthas except Gasoline	47,023,000	169,770,000
Residuum	69,209,000	12,916,000
Total Refined	2,115,298,000	2,171,312,000

The control of the export business is indicated by the number of tank steamers owned by the different companies. A man close in touch with the situation told a representative of The Journal of Commerce recently that the Standard Oil Co. and its former subsidiaries still controlled about 60 per cent of the export business. The following table, taken from Lloyd's Register for 1915-1916, shows the bulk of oil-carrying steamers owned by the Standard Oil Co. of New Jersey, California and New York; the Anglo-American Oil Co., former Standard Oil subsidiary, which, according to its report for 1914, took nearly half of British imports; the Gulf Refining Co., the Petroleum Transport Co., a subsidiary of the Mexican Petroleum Co., and the Texas Co. Twenty tankers are listed as belonging to the last three companies named, who rank among the largest independents, compared with a fleet of 26 owned by the Standard Oil Co. of New Jersey.

STANDARD OIL CO. (Of New Jersey)
Ardmore, 7,129 tons; Baton Rouge, 4,973; Bayway, 5,083; Brindilla, 4,171; Bradford 6,303; Caddo, 6,329; Caloria, 4,095; Corning, 5,073; Cushing, 6,894; Dayton,

5,335; De Soto, 6,268; John D. Archbold, 8,375; John D. Rockefeller, 8,374; Llama, 3,189; Matinicoek, 6,766; Motano, 2,730; Muskogee, 7,225; Petrolite, 3,710; Pioneer, 5,075; Platuria, 4,445; Polarine, 4,046; Princeton, 5,081; Comersset, 5,079; Standard, 10,073; Wico, 2,748. STANDARD OIL CO. (of California)

Atlas, 1,942 tons; Capt. A. F. Lucas, 1,942; Col. E. L. Drake, 4,205; El Segnndo, 3,664; J. A. Moffett, 6,395; Richmond, 6,563.

STANDARD OIL CO. (of New York)

Brilliant, 2,487 tons; Rayo, 3,664; City of Everett, 2,595; Seony, 3,664; Comet, 2,486; Vesta, 3,663; Eocene, 2,217.

ANGLO-AMERICAN OIL CO.

Appalachee, 3,767; Iroquois, 9,202; Ashtabula, 7,025; Lackawanna, 4,125; Cheyenne, 4,987; Narragansett, 9,196; Commanchee, 5,588; Ottawa, 2,742; Cuyahoga, 4,586; Potamae, 3,868; Suwanee, 2,748; Genesee, 2,830; Tonawanda, 3,421.

GULF REFINING COMPANY

Gulfeast, Gulfight, Gulfoid, Gulfstream, all have a tonnage of 5,189; J. M. Gaffney, 2,520; Larmer, 3,738; Ligonier, 3,737; Trinidadian, 2,450.

PETROLEUM TRANSPORT COMPANY

C. A. Canfield, Charles E. Harwood, 6,350 tons; Edward L. Doheny, 6,170; Herbert G. Wylie, 4,292; Norman Bridge, 4,288.

TEXAS COMPANY

Alabama, 2,621; Bradant, 2,773; Florida, 1,596; Illinois, 5,225; Louisiana, 2,849; Northwestern, 2,207; Texas, 5,106.

Nine ships, having a capacity of from 50,000 to 90,000 barrels, are being built for the Petroleum Transport Company at the present time, according to an official of the Mexican Company. All companies are making efforts to increase their fleet of tank steamers, but American shipyards are now so busy that no orders are now accepted calling for delivery before 1917, it is said.

There is now in course of construction in this country a total of 60 tank steamers, the major portion of which is for account of the Standard Oil.

According to the Bureau of Standards, at Washington, many of the gasoline explosions and fires in automobiles, which are considered mysterious, can be attributed directly to electric sparks caused by the filtration of gasoline. It is shown by the bureau that many explosions were caused by sparks generated while filling the automobiles through strainers made of wire netting and a piece of chamois skin. The bureau is completing an exhaustive search into the causes of these accidents and will soon have a most interesting report on the subject.

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

Gasoline Goes Up Again.

Another cent has been added to the price of gasoline in San Francisco, the Standard Oil Company announcing an advance to 19 cents a gallon. Prices effective now are 1 cent advance for Red Crown gasoline, V. M. & P. Naptha and engine distillate.

Tells of Oil Discovery.

An interesting side light on the discovery of oil on the lands which the United States is trying to get away from the Southern Pacific Company, was given during the course of the trial by the testimony of W. E. Yule, who went into the early history of oil discoveries in the San Joaquin valley, and the interest that was taken in it by Collis P. Huntington, then president of the road. According to Yule's testimony he reported to the company in 1899 that oil existed in the valley, giving it as his professional opinion that there would be high development. He told of the visit at that time of a number of Southern Pacific officials to the McKittrick field and their great interest in the possibilities.

Controlling a Gusher.

Oil men have learned their lesson and gushers are watched for and headed off before they waste a fortune. Where formerly wells that came in big 1st thousands of barrels of oil before they could be brought under control, the Kern Trading and Oil Co. has demonstrated that such procedure is useless, and this was evidenced recently when No. 60 well went into big oil sand and the flow of oil started just as did the gusher brought in near the same place two years ago. A big well was looked for in 60 and precautions had been taken to control its flow. As the drillers neared the big oil sand they worked with everything in readiness to close in the well. When the roar of gas was heard, indicating that something was coming, the great gate valves were closed and

the flood of oil which under the old conditions would have gone over the derrick, was turned into a pipe that carried it to a guage tank near the derrick. The well is now flowing with the production cut to 1,000 barrels a day. It is believed that if it were allowed to flow to its full capacity it would reach 5,000 barrels a day.

Palmer Union Improving.

After many months of discouragement it now looks as if the stockholders of the Palmer Union Oil Company were to reap the reward of their faith and patience. According to official advices received from the management of the company, No. 1 well on section 23, 32-23, in the Midway field, which has been driven to a greater depth, is now flowing more than 400 barrels a day.

According to the superintendent this flow proves the existence of gusher sand at an approximate depth of 3000 feet. The oil is of 15 degrees gravity.

Preparations are going forward to put the other wells on the property down to the new sand. Palmer Union stock has become an active feature on the San Francisco stock exchange owing to the favorable reports being received, and the brighter prospect of the company.

Rise and Fall of Quicksilver.

One of the most noted effects of the European war on mines was that of the phenomenal rise in the price of quicksilver. On April 1, 1914, quicksilver sold in San Francisco at \$38 a flask of 75 pounds, and that price had been considered staple for many years. As soon as activity came to the ammunition makers quicksilver took the appearance of a "war baby" and it sky-rocketed up to \$300 a flask. After remaining there for some time England took a hand in the game because the high price of quicksilver was increasing the price of ammunition, and it released the embargo it had placed on the metal with the result that there was an immediate drop in price to \$200 a flask and then a further drop to \$175, at which figure it stops at present.

Present demand for the metal is reported light and as a result those who have been expecting to make rapid fortunes out of quicksilver are not so sanguine. Dealers are making no new contracts and are buying from day to day just what the market requires.

Rumors of manipulation are current, and it is believed in selling circles that the lifting of the embargo was simply a shrewd move on the part of England to force down the price. There has been no cessation in the demand for the metal, and if the war continues much longer it is possible that the price will go even to a higher point than \$300 a flask. In support of this belief it is reported on what seems to be good authority that owners of the largest quicksilver properties have been approached with offers at \$185 on contract for the entire output for the year 1916. These offers have been refused.

One of the direct results of the rise in quicksilver is to be seen in the reopening of many of the old properties in California, which were shut down because of their producing nothing but loss in their operation. Now they are found to be profitable.

Shell Company Broadens.

Another step in the organization of the business of the Shell Company in California has been taken by the issue of 20,100 shares of its capital stock to the Anglo Saxon Petroleum Company, Ltd., in payment of an indebtedness to the amount of \$1,608,000. The Anglo Saxon was one of the companies which developed the California petroleum situation for the Shell Company. The issue of the stock has been authorized by Commissioner of Corporations Carnahan.

Old General Petroleum Dies

At Los Angeles, on April 3, 1916, there was to have been held the last annual meeting of the old General Petroleum Company, but owing to lack of quorum there was no meeting. Possibly the stockholders did not consider their interests of sufficient value to warrant them in paying out their good money for car fare to the place of meeting.

The reorganization plan is practically assured, reports showing that \$3,897,000 of General Pipe Line bonds, and 9742½ shares of stock have assented to the plan, leaving outstanding \$103,000 bonds and 2571⅓ shares of stock. At last report only \$40,000 of the \$3,000,000 notes were undeposited. Sufficient bonds and interim certificates have come in to make it unimportant whether any more come or not.

The income for 1915 shows about \$1,800,000 gross profit for the year, exclusive of marine earnings. Until the accounts of this department have been received from Andrew Weir, the amount of these earnings is uncertain, but they are estimated at \$225,000 by the company's auditor. From this sum of \$2,025,000 is to be deducted the cost of the Trumble patents.

Japanese Oil Men Visit California.

One of the big oil companies of Japan, if not the largest in all the Orient, is the Nippon Oil Company, of Tokyo, Japan. The "Derrick" has frequently commented on the development work and progress of the Nippon Company, and during the past month two prominent members of the company came in to express their appreciation of the work of the paper and incidentally to ask for a vast amount of information regarding the petroleum business of California.

Messrs. Katzutka Ito, secretary of the company, and editor of the house organ, accompanied by D. Matsuzawa, engineer of the company, are on a tour of investigation and will spend several weeks in and around the California Oil fields, making their headquarters at Los Angeles. They are much interested in the new California laws regulating the oil industry, and they spent considerable time at the Mining Bureau, asking questions.

According to Mr. Ito, California has been largely responsible for the great development of Japan's oil fields. In speaking of this he said:

"We took from California machinery, expert drillers, expert geologists and much information, and the result is that now we have expert drillers among our own people and we drill wells as deep as you do in California, experiencing no difficulty. We have the same water trouble that has given you trouble, and we are investigating the methods being used here to prevent it. We have adopted into the Japanese

language the names of all the tools and machinery that came from this country. We shall make an exhaustive investigation and shall invest heavily in more tools and machinery before going home. Conditions in Japan are improving steadily as we become better able to understand the petroleum problems, and development is increasing steadily."

Union Oil in Big Fight.

Apparently the Stewarts who founded the Union Oil Company, and brought it to a magnificent property valued at \$35,000,000, are having a fight for their business life. The suit brought by John Garrigues, the former treasurer, and other stockholders does not concern in any way the fundamental strength of the company, but is an effort to wrest control from the men who have been running it since its beginning.

The primary object of the suit which is now on trial in Los Angeles, is to bring about a dissolution of the holding companies, the United Petroleum and the Union Provident, and it promises to involve a greater number of technical issues than any other action in the oil industry, unless it might be the government suits for dispossession and kindred suits. The Union Oil, according to its reports to stockholders, has never been in better shape, physically and financially, and it is enjoying to the full the improved condition in oil price and demand.

The present action is the outgrowth of several suits brought originally by John Garrigues, early in the year. According to the filing of the suit, E. H. Blinn et al are plaintiffs and the Union Oil Company et al defendants.

As an offset for any injury to the company the Stewart interests have promulgated a proposition which will establish a permanent policy in regard to the management of the Union Oil Company. This plan is strongly objected to by the Stockholders Protective Association on the ground that it will be whipping the Devil around a stump, and will give to the Stewarts as much of a control as they now have through their holding companies. In this system of control the Stewarts control the United Petroleum, a corporation of about \$8,000,000 capital, which in turn owns a control of the Union Provident, and the latter holds a control of the Union Oil, a \$35,000,000 corporation.

Lyman Stewart, founder of the company and chairman of the board of directors, says that the proposed voting trust is designed to do away with the holding companies and simultaneously give larger voice to the stockholders in the affairs of the company.

The attorneys for the company say there is no limit to the amount of Union Oil stock that may come into this voting trust and secure representation on the governing board to be organized in the even that a majority of the stockholders give their consent to the plan.

On the other hand, Garrigues and those who are working with him claim that the Stewart plan means that there will be just the same control exercised by the Stewarts as under the holding companies. They point out that any promulgated by the Stewarts is bound to be on a parity with their actions previously when they have disregarded the minority stockholders and run things as they wished.

The Recent Standard Oil Stock Dividend

There appears to be a popular misunderstanding as to the significance to the shareholders of the recent stock dividend of 50 per cent declared by the Standard Oil Co. (California), and which dividend has received the approval of the state authorities. The impression seems to be abroad that by the declaration of this stock dividend a large amount of capital has been distributed to the stockholders of the company. This is an erroneous conception.

For many years the Standard Oil Co. (California) paid no dividends. The surplus earnings, which belonged to the shareholders, instead of being paid in dividends were returned to the business, and used in the expansion and development of the company. During the last five years the shareholders received a little over 6 per cent on their investment. As the result, at the end of the year 1914, the balance sheet of the company showed that there was a substantial surplus represented in the assets of the corporation, which had been in process of accumulation since the year 1900, over and above a paid-up stock issue of practically fifty million dollars. This surplus represented a reinvestment in the company of funds which had thus been indirectly supplied by the company's stockholders. In July, 1914, the board of directors of the corporation, pursuant to a policy previously adopted and made public, contemplated a distribution of this surplus in the shape of a stock dividend. The capital stock of the corporation was increased to make available stock for such distribution. The outbreak of the European war interfered with the plan, as was announced in the annual statement of the president to the stockholders in February, 1915. The net profits of the company during the year 1915 were approximately

10 per cent on the paid up capital and surplus. In January, 1916, a declaration of a stock dividend to the stockholders was announced. While the stock dividend was a dividend of 50 per cent of the capital stock of the company, it in reality gave to the stockholders no added principal or capital sum. The market value of a share of stock in the company prior to the declaration of the stock dividend was equivalent to the market value of a share and a half after the declaration of the dividend. Shortly before the stock dividend was announced the stock was selling at approximately \$390 a share. The present quotation for the stock ex-dividend is approximately \$255 a share, an equivalent of approximately \$381 for a share, with the dividend. The true value of the dividend to the stockholders is in the increased earning power of their holdings, for they will now receive dividends on one and one-half shares of stock for each share owned at the time of the declaration of the dividend. It did not seem wise to the directors, in view of the rapid expansion and development of the company's business, to provide for the payment of such a dividend at an earlier date. Virtually, however, the dividend was being earned and was the property of the stockholders, for whom it was reinvested in addition to the company's assets.

It is apparent, therefore, that while this dividend increased the stock holdings of each stockholder, it decreased the value of each share proportionately. It gave to the stockholders nothing that they did not already own, but, on the other hand, converted the surplus into stock, and thus made it subject to the payment of dividends.—Standard Oil Bulletin.

Crude Oil Prices at Well.

Effective April 1, the Standard Oil Company of California offers the following prices for crude oil at the well:

San Joaquin Valley fields (Kern River, Midway-Sunset, McKittrick, Lost Hills-Bellridge, Coalinga) 14 degrees to and including 17.9 degrees, 58c per barrels; 18 degrees to and including 18.9 degrees gravity, 59 cents per barrel, and for each increase in gravity of one full degree above 18 degrees gravity, up to and inclusive of 24.9 degrees gravity, 1c per barrel addition; 25 degrees to and including 25.9 degrees gravity, 67 cents per barrel, and for each increase in gravity of one full degree above 25 degrees gravity, 2 cents per barrel additional.

Ventura County—25 degrees to and including 25.9 degrees gravity, 67c. per barrel, and for each increase in gravity of one full degree above 25 degrees gravity

Whittier-Fullerton Field—16 degrees to and including 17.9 degrees gravity, 58 c per barrel; 18 to and including 18.9 degrees gravity, 59 c per barrel, and for each increase in gravity of one full degree above 18 degrees gravity, up to and inclusive of 24.9 degrees gravity 1 cent per barrel additional; 25 degrees to and including 25.9 degrees gravity, 67 cents per barrel, and for each increase in gravity of one full degree above 25 degrees gravity 2 c per barrel additional.

The above prices on the San Joaquin Valley and

Whittier-Fullerton fields oils represent an advance of 5c per barrel on 14 to 24 degree oil inclusive over the prices established February 16 last and on gravities of 25 to 36 degrees inclusive, the advance is from 6c to 17c per barrel, each higher degree carrying with it a 1c advance over the preceding degree.

On the Ventura county oils 26 to 36 degrees, inclusive, the advance is from 1 to 11c per barrel respectively, each higher degree, as above, carrying 1c advance.

Buys Phoenix Refinery.

The Phoenix Refinery at Bakersfield and 500 acres of land were purchased at auction recently by George Hay, H. A. Brandt and W. E. Underwood, the property belonging to H. A. Blodgett, Mrs. Mary Packer and the Phoenix Refining and Manufacturing Company. The consideration paid for the properties was \$66,000 cash. This refinery has been operating for some time with little profit, and the owners tired of it, but the new owners believe that with the improvement in prices of gasoline and other petroleum products there will be a possibility of making the refinery a paying proposition. It is now leased to the American Oil-fields Company. The land is situated between the Midway and the McKittrick districts.

Changes In Associated Oil

An excellent showing has been made by the Associated Oil Company for the three months of the present year, and in the report of President Sproule the business of the year 1915 showed an increase of \$721,040.21 over that of 1914. The annual meeting brought changes in the personnel of the directorate and officials, as will be seen by the following result of the election.

Directors: Alden Anderson, J. A. Chanslor, Frank G. Drum, T. O. Edwards, F. B. Henderson, Rudolph Herold, Jr., William F. Herrin, R. P. Schwerin, Wm. Sproule, George Whittell and M. H. Whittier.

Executive Committee: William Sproule, chairman; Alden Anderson, Frank G. Drum, William F. Herrin and R. P. Schwerin.

Officers: William Sproule, president; R. P. Schwerin, vice-president and general manager; J. A. Chanslor, vice-president; J. R. Lewis, vice-president in New York; F. B. Henderson, assistant general manager; P. G. Williams, secretary; W. A. Sloan, treasurer; C. L. Coppage, assistant secretary; R. G. Page, assistant secretary in New York.

Following is the financial report for the year 1915, as shown in the annual report of President Sproule:

Business earned after deducting operating expenses, maintenance, transportation, etc., were	\$4,970,087.71
Fixed charges:	
Taxes	\$ 167,578.85

Interest on Bonds	748,407.46
Other Items	61,947.51
	<hr/>
	\$ 977,933.82

Balance	\$3,992,153.89
Reserve for depreciation	1,984,805.37
Reserve for amortization of discount on bonds sold	89,344.81
	<hr/>

Balance to profit and loss\$1,918,003.71

"From the statement of assets and liabilities you will observe that your company is in sound financial condition, current assets exceeding current liabilities in the sum of \$5,890,799.63 of which \$2,433,170.08 is cash.

"Dividends to amount of \$1,789,095.16 were paid during the year.

"At the close of 1914 the outstanding funded debt of this company was \$15,212,000. During 1915 the company purchased \$1,737,000 of first refunding mortgage 5 per cent gold bonds, which it holds in its treasury.

"The trustee, under sinking fund requirements, purchased and canceled during the year, first refunding mortgage 5 per cent gold bonds to the amount of \$1,113,000, in addition to which there is in the hands of trustee, \$97,316 for retiring first mortgage 5 per cent gold bonds.

"The outstanding funded debt of the company at close of 1915 is \$13,331,000."

Activity in Lost Hills.

According to the State Mining Bureau drilling has shifted to the Lost Hills district. Out of a total of twenty new wells drilling in the week ending March 18, twelve were in the Lost Hills field and eight of them were owned by the General Petroleum Company. The Associated Oil Company has commenced drilling operations on two new wells in the same district. Eight old producers were added to the number being redrilled or deepened in the Coalniga district during the same week.

Prosperity Comes From Good Prices.

Business men of the great west side oil fields of the Maricopa district say conditions are better than at any time during the past four years, and they attribute this improvement of business to the increase of the price of crude oil. Oil operators feel assured that good prices will prevail for many months ahead, and they are going ahead making contracts for the sale of their output at prices that will give them a good profit. They are so sanguine of the outcome that they are spending money on improvement of properties all over the Midway, Sunset, North Midway, Bellridge, Lost Hills, McKittrick and Coalinga fields, and as a result many men are finding employment and are able to pay off their old bills and buy new supplies. It is expected that oil will go to 60 cents in the near future and the small operators around the field act much as they would have acted a few years ago with oil at \$1.

Negative Information Has Value.

"Forewarned, forearmed," applied to oil-well drilling as much as to weather predictions. As the cost of putting down a well is great, drilling should preferably not be undertaken in a new region until a careful geologic examination of the surface has been made and the most favorable area determined. The geologist can not tell from a study of the surface alone whether or not oil occurs beneath the surface, but he can designate areas in which it is extremely unlikely that oil may occur and other areas in which the structure is favorable to the accumulation of oil. The United States Geological Survey has just published a report on the Cuyama Valley, Cal., which lies about 100 miles northwest of Los Angeles, between the very productive Sunset oil field on the northeast and the Santa Maria field on the southwest. The report, which is based on field work done in 1914, describes the geologic formations and structures in detail, points out the possible sources of oil and the conditions unfavorable to its accumulation, and gives all the evidence for the conclusion that the chance for the development of a commercially successful oil field in Cuyama Valley is poor. It is possible that small pools may be found in a few areas, but these areas are pointed out. Two wildcat wells had been drilled before the field was examined by the Survey geologist, W. A. English, who has written the report. This report may be obtained free by applying to the Director of the U. S. Geological Survey, Washington, D. C., for a copy of Bulletin 621-M.

Will Give New Degree.

Columbia University will hereafter confer the degree of Master of Science upon graduate engineering students who satisfactorily complete the graduate course in highway engineering. From April 1911 to 1915 the graduate students who have specialized in highway engineering have been candidates for the degree of Master of Arts.

Reorganizing General Petroleum.

Rumors that seem to be well founded are being freely circulated relating to the reorganization of the General Petroleum, and not the least probable of these is the consolidation of the General Petroleum with the Associated Oil. According to this rumor the Fleishhaecker interests are said to be behind the move, and in the reorganization they will come in for a large share of the holdings.

The reorganization plan as given out by the General Petroleum calls for the formation of a new company to take over the holdings of the present company and its subsidiary, the General Pipe Line Company. The new company will issue 6 per cent mortgage bonds not to exceed \$1,500,000 to Andrew Weir.

General Petroleum Bonds.

On March 10th there had been deposited under the plan of reorganization of the General Petroleum Company \$7,884,200 interim certificates and \$3,242,600 bonds, a total of \$11,126,800 out of an outstanding issue of \$13,200,000. Of the \$2,000,000 undeposited securities less than half is represented by certificates. Of the \$865,000 undeposited certificates about \$775,000 are held in Europe and about \$90,000 in this country. Of those held in Europe about \$500,000 have been or will be deposited, for they are known to be in the hands of those who are committed to the plan. There is nothing like a complete record of the present holders of free bonds. From the fact, however, that no objection has been raised to the plan, it is reasonable to assume that practically all the securities will participate.

Preparing Well Assessment.

The first assessment against the oil industry of the State of California, under the provisions of the new laws enacted by the legislature, is being prepared by R. P. McLoughlin, of the Oil and Gas Department of the State Bureau of Mines. Notice of the assessment will be promulgated about June 1, and will affect about 500 companies and individuals operating the 6000 and more oil wells in California.

The law provides the levying of an annual assessment of \$45,000 against the oil industry, the money to be used for the maintenance of the Oil Department, the inspection of properties and the repair of such properties as the state may have to undertake. This year the assessment will exceed \$45,000, as the department had to borrow \$20,000 last year from the general fund, and this is now to be repaid.

Proved Oil Lands Stationary

There have been no new oil lands proven up during the past five years, according to the California Mining Bureau. According to the known territories there

are 75,000 acres of oil land in California that have been proven. While this is a theoretical indication that California has no more oil land, practically it is nothing of the kind. All oil bearing land in the beginning was unproven, and it is claimed by geological experts that there will be discovered new fields in California that are destined to exceed those already discovered. Pioneers receive little encouragement, and those who are looking for oil far away from the known and proven territory have to bear the brunt of sneers just as the first discoverers of oil in California were laughed at when they announced their discovery.

California's oil fields in the southern part of the San Joaquin valley are wonderful, but there is every reason to believe that a field will be opened some day in the northern part of the state that will surprise the world, both as to its productivity and its high grade.

Proven Territory in California.

California added but little to its proven oil acreage in 1915. The McKittrick Field remains by far the most productive area per acre in the State, and it made the largest gain per acre during the year.

In the table that follows the proven area includes only producing territory, and entirely disregards unproven areas generally regarded as oil lands. In cases of single outlying wells, about fifteen acres are classified as proven.

FIELD	Prov. acres	Total prod. to Dec. 31, 1915 Barrels	Total Barrels to Dec. 31, 1915 Prod. per acre
Kern River	7,650	181,747,075	23,760
McKittrick	1,345	45,631,573	33,930
Midway-Sunset	36,800	216,336,533	5,880
Lost Hills-Bellridge	3,095	17,278,295	5,580
Coalinga	14,440	166,552,695	11,530
Lompoc and Santa Maria	7,900	70,692,981	8,950
Ventura County and Newhall	4,190	17,616,305	4,200
Los Angeles and Salt Lake	2,700	49,679,079	18,400
Whittier-Fullerton	3,700	82,748,993	22,360
Summerland	230	2,066,989	8,990
Miscellaneous	*200	909,902	4,550
Total	82,250	851,260,420	10,350
*Estimated.			

Some California "War Babies"

Eight important commodities in which the Pacific Coast is vitally interested have shown remarkable advances in values since the opening of the European War. These commodities are quicksilver, copper, spelter, sugar, wheat, white lead, castor oil and gasoline. In addition to these there have been a number of others such as medical alkaloids, rare metals used in manufacture, dye stuffs, manganese, and magnesite, some of which have made spectacular advances but the quantity was too small to cause much comment, even though it affected its particular market. The following table of advances from 20 to 386 per cent:

Commodity.	Price July 1, 1914	Price April 1, 1916
Quicksilver	\$38.00	\$185.00
Copper .....	.13½	.28
Spelter .....	.05	.17
Raw Sugar	3.32	5.96
Wheat .....	.80	1.21½
White Lead .....	.07¼	.10¼
Castor Oil	1.03	3.00
Gasoline .....	.15	.18
Average increase		139.6 per cent

California Petroleum Corporation.

Especially poor trade conditions are blamed for the unfavorable showing of the California Petroleum Corporation for 1915, so far as its earnings are concerned. The company says that the advance of price in crude oil in the Oklahoma field three months before the advance in the California field placed it in such position that it could not take advantage of the market.

Patagonian Oil Field.

Buenos Aires newspapers say that an important conference of government officials over the matter of proceeding at once with further development of the Federal petroleum fields in Comodoro Rivadavia resulted in a decision to raise funds for the purpose. The government has already been making arrangements for transportation of oil, and is said to be contracting in this country for the construction of barges.

Argentina sets great store by her oil fields, which have been officially reported to give evidence of being the most prolific in the world. If they turn out big producers, the belief is that the oil fuel will become the basis of considerable manufacturing industry not only in Argentina, but in other parts of South America.

Opportunity After The War.

Commercial Attache A. H. Baldwin of London has sent a report to the Bureau of Foreign and Domestic Commerce which is of interest to American manufacturers and exporters. In this report he says:

Manufacturers in Europe already look forward to the immediate and urgent need for a large amount of reconstruction work that will arise at the close of the present conflict in those regions where war's ruthlessness has laid low towns and industrial plants and destroyed bridges, railroads, and equipment of every kind. It is certain that the desire will be to rehabilitate devastated areas as soon as possible, and many British, French, and Belgian firms are already making careful plans for the future, organizing their forces and gathering information about probable needs, in order that no time may be lost in taking advantage of the trade opportunities that are sure to exist then.

The extent of these opportunities will be so great that European manufacturers will be unable to take care of them all. It is therefore important that American firms should begin their preparations early and take the necessary measures to handle the trade that will be offered to the United States. Many competent observers in Europe believe that the war will end, when it does end, with great abruptness. The result will be that, practically without warning, the vast amount of industrial activity now directed to the preparation of war supplies will suddenly stop and a very embarrassing period of readjustment follow. Difficulty will almost surely be encountered in the reorganization of labor and in the change to new forms of manufacture. Hundreds of plants will be affected, and time will be required in these industries for rearrangements before the necessary work of replacing losses by war destruction can begin.

Manufacturers and exporters in the United States can be ready for this situation at the close of the war if they will begin now a careful study of probable requirements and establish, as soon as conditions permit, the necessary connections and agencies abroad. The moment the necessity for purchasing in the United States is over, many buyers not only in Europe but in other markets—in South America, Australia, and the Orient—will turn to their pre-war sources of supply, and American exporters can expect to hold only a portion of the foreign trade which they now enjoy. It is probable that prices will also promptly fall. In fact it is to be noted that much of the exceptional increase in the total value of exports from the United States has been due to higher prices rather than to a larger volume of business. Shipping will probably again be available in sufficient amount, and exporters who are ready and equipped with a knowledge of the goods for which there will be an emergency demand in Europe, and who have suitable connections established, will profit by their foresight.

The range which these emergency demands will cover will be wide. It will include all varieties of building material, especially those adapted to quick construction; railroad equipment, electrical equipment, sanitary supplies, furniture, machinery, clothing, implements and tools, etc. A study of the character of the industries in the devastated districts in books of reference readily available to the commercial inquirer will indicate the character of the machinery and other supplies needed. Mining and smelting industries may be in need of much new equipment; textile and iron and steel manufacturers will certainly be in a similar plight.

Why shouldn't the Standard Oil Company make the best oil—with over 40 years experience in refining—with unequalled plant equipment? And Zerolene is scientifically refined from selected California crude—asphalt-base. Prominent authorities have recently declared that an oil correctly refined from asphalt-base crude can be made not only equal but superior to paraffine-base oils. Next time you empty the crank-case refill with Zerolene Dealers everywhere and at service stations and agencies of the Standard Oil Company

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Mexican Petroleum's High Value.

I. C. White, State Geologist of West Virginia, has been authorized by William Salomon & Co., the big New York investment bankers, to make a thorough examination of the Doheny properties in Mexico, which are known as the Mexican Petroleum Company's holdings. White has completed the report and places the valuation of the properties at \$300,000,000 and says this is far within the limits of a conservative report.

Coalinga Deal Closed.

The acquisition of the properties of the California Oilfields Ltd., by the Shell Company of California, for \$10,550,000, has been consummated and the deed has been recorded in Fresno county. The transfer is the largest ever recorded in that county, and the deed bore revenue stamps to the amount of \$10,550.

The deed covers about 8,700 acres of oil land, all within the Coalinga district in Kern county. The deed also covers all of the Coalinga property of the California Oilfields, Ltd., including offices, general hospital, right of way along the Southern Pacific tracks, etc.

Bankline to Sell Stock.

Commissioner of Corporations Carnahan has given permission to the Bankline Oil Company to sell 55,000 shares of stock at \$1 par, to net the company full par value. The proceeds of this sale will be used to buy forty acres of land in Kern county on which there are producing wells. The Bankline is a company that was organized to buy lands that had been offered to and rejected by the Petroleum Company. The fact that it was formed for this purpose and that many of its stockholders are holders of General Petroleum stock has caused the impression to become general that it is a subsidiary of the General Petroleum, but this is denied by that company.

A New Frothing Oil.

James M. McClave, a well-known flotation expert, has been experimenting recently, with the special coal tar products of the American Coal Refining Company, of Denver, Colo., on the ores of the Montezuma district. It has been found that the creosote oil produced by this company gives a good froth. Ordinarily creosotes are used as collectors and must be mixed with pine oils in order to secure a froth bed. This new product, without the use of pine oils, produces a froth bed. The tests are being followed with much interest by commercial experiments, which, if successful on these ores, will eliminate the use of sulphuric acid, which has advanced in price from 1 cent to 6 cents a pound in the past month, and which is very difficult to secure at any price.

War Helps California Oil.

According to F. S. Hereth, of New York, who is visiting California, the war in Europe has led to the development of a new industry or branch of the petroleum industry. He said:

"The heavy petroleum produced in California is found to be superior to the best oil of that character that ever was brought from Russia, and has gained a

place in the commerce of the United States which it is destined to hold.

"I am the California representative for the firm of E. R. Squibb & Son, and we are taking the entire output of the Standard Oil Co. at Richmond of this kind of oil. The highest viscosity of this product is what makes it so valuable. The demand is practically unlimited."

Gulf Oil's Good Showing.

As the various oil companies are making public their statements of business for the year 1915, many surprises are found, and one of these is in the report of the Gulf Oil Corporation, the holding company for the various producing, refining, piping and marketing companies of the Mellon interests of Pittsburgh, Pa.

According to the circular mailed to the stockholders of the Gulf Oil Corporation the net earnings last year amounted to \$9,945,132.64, as against \$8,259,646.50 in 1914. This statement shows net earnings of 28.8 per cent on the outstanding stock of the company.

Rare Metals Found in Mexico.

The Mexican Mining Journal has the following to say about rare metals in Mexico:

"It has been said that there is no such thing as prospecting in Mexico, that all one needs to do is to find some old excavation begun by some Indian or Spaniard of long ago, and to test its possibilities. The antignos were industrious prospectors and, in their search for silver, little on the exposed hills escaped

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their scrutiny. Most of the present great mines of the country are located in spots indicated by ancients.

"There is, however, prospecting of another sort to be done in Mexico, of which the enterprising antiguos knew nothing. The ancients were looking for only one or, at most, for only a very few metals. They had no knowledge of modern metallurgy, and of the uses to which many mineral substances, entirely unknown to them, are now put. Mexico is, therefore, practically a virgin field for prospectors for minerals of the rare metals, which have during the past five years grown so useful that they are no longer exactly rare. This country is geographically and geologically an extension of western United States, and there is no reason why there should not be deposits of tungsten ores like those of Colorado, of earnotite like those of Utah and beds of alunite similar to those which now promise to make good America's lack of potash.

"Mexico offers almost ideal conditions for the prospector. The climate is nowhere severe, and although in some regions the absence of water and vegetation seems an unfavorable factor, the climatic conditions to which this absence is due, have also exposed to view the formations and the minerals in the hills and mountains."

February Oil Exports

Exports of crude and refined oil in bulk from the San Francisco customs district in February made a good showing, particularly as regards shipments of fuel. The remarkable revival of prosperity in Chili is reflected in the shipment of oil to that country, which was the largest buyer of California's liquid fuel last month. Five tankers with full cargoes of fuel oil steamed for Chilean ports in February with an aggregate of more than 11,000,000 gallons, valued conservatively at about \$190,000. Custom house records show the following shipments of crude oils for the month:

Country	Gallons	Value
Chile	11,328,173	\$189,075
Alaska	3,276,000	52,700
Hawaii ..	1,891,000	35,031
Panama ..	1,701,000	33,900

Totals ...	18,196,233	\$310,706
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Shipments of crude and refined oils to Hawaii in February were as follows:

	Gallons	Value
Crude	1,891,060	\$ 35,031
Refined—		
Napthas	568,386	78,812
Illuminants	309,200	35,191
Lubricants	34,802	12,000

Total Refined	912,388	\$126,000
Add crude	1,891,000	35,031

Grand Total	2,803,448	\$161,040
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Shipments to Hawaii in January of this year were made up mostly of crude, the total value of both crude and refined being \$125,804.

Wyoming Field Developing.

The abrupt decline in the production of light grade oil in the leading producing districts of the country, notably Oklahoma, is forcing the development of the

Wyoming fields on the largest scale ever attempted there. Results so far prove that the Wyoming field holds greatest promise both in respect to probable size of output and quality of the oil. Wyoming oil is unusually high grade, being 25 per cent gasoline and 30 per cent kerosene.

In 1915 Wyoming produced about 4,200,00 barrels of oil, an increase of 35 per cent for the year. Development of the Wyoming field has heretofore been retarded by the mid-continent field, where a remarkable supply of light grade oil was brought in during the past few years. There has been a sensational decline in the output of the mid-continent field lately, and now it is necessary to bring in Wyoming fields.

Packard Agent Recommends Western Motor Oil.

"We made a careful oil test covering eight months, using two eastern oils, and a western oil made from asphalt-base crude," said C. L. Ross, manager of the Pacific Car Co., of Tacoma, agents for the Packard.

"In spite of the fact that the Packard carrying the western oil was driven 3000 miles more than the other two cars, it showed less wear on cylinder walls, rings, pistons and motor bearings, with practically no carbon. On the other hand, both of the cars carrying eastern oil had large carbon deposits.

"There's no question in my mind about the superior quality of western oil especially in the present-day high-speed motors with their close-fitting pistons. Freedom from piston drag, and freedom from carbon are highly essential in the operation of these motors, and western oil gives just the results needed."

"South Chester"

We have the following South Chester genuine iron casing for sale:

IN STOCK AT TAFT

500 ft.	12-1/2 in.	casing	Weight 40 lbs.
600 ft.	8-1/4 in.	casing	Weight 28 lbs.
800 ft.	6-5/8 in.	casing	Weight 20 lbs.
3690 ft.	6-1/4 in.	casing	Weight 20 lbs.
10000 ft.	2-1/2 in.	tubing	
10000 ft.	3 in.	tubing	
4000 ft.	4 in.	rotary pipe	

IN STOCK AT LOS ANGELES

16000 ft.	1-1/4 in.	casing	Weight 20 lbs.
17000 ft.	4 in.	rotary pipe	

IN STOCK AT ORCUTT

2000 ft.	12-1/2 in.	casing	Weight 40 lbs.
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California Concentrates

The Mascot Oil Company will put all of its 43 wells on power, using two pumping motors.

The East Puente Oil Company will soon add another well to its list, having awarded a contract for a rig.

The Fairbanks Oil Company is preparing to drill two wells on Twenty Five Hill, near Taft.

The Glenpool Oil Company, of Arizona, is preparing to operate on 150 twenty-acre claims near Globe, Ariz.

The General Petroleum Company is preparing to drill up its holdings on section 6, 20-15, near Coalinga.

The Pacific Crude Oil Company has contracted its output to the Standard.

The Buena Fe Oil Company will operate a lease on section 24, 26-20, near Coalinga.

The Crescent Petroleum Company is a new company to enter the Coalinga field.

The Western Oil and Gas Co. will soon begin drilling near Coalinga.

The Petrolia Oil Company has spudded in a well on section 12, 11-23, near Maricopa, and will sink to producing sands with a ten-inch casing.

The Bankline Oil Company has bought forty acres belonging to the August Oil Company, near Bakersfield.

The Standard Oil Company has filed its articles of incorporation in Ventura county, California, preparatory to securing a lease and beginning operations.

The Kern Trading and Oil Company is constructing a pipe line from section 13, 20-14 on the west side of Coalinga, to section 35, 19-15, east side field.

The Reward Oil Company reports having struck oil at a depth of 2,700 feet on the southwest corner of section 36, 27-20, in the Bellridge district.

The Associated Oil Company has started drilling on section 13, 26-20, in the Lost Hills district, opening two new wells.

A fifty horsepower pump motor has been ordered for the Shell Company's tank farm between North Midway and McKittrick.

The Shell Company has expended \$2,000,000 in the purchase of new oil lands, and it is believed that this will mean increased plant at Martinez.

It is reported that the Standard Oil Company will deepen well No. 6 on the Coalinga Oil Company section 20, 1-15.

The M. J. & M. & M. Oil Co. has finished well No. 24 to oil sand, on section 36, 12-24, Maricopa. It is down 1350 feet with ten-inch casing.

The Cajokla Oil Company is trying to lease 700 acres of land from the Anaheim Union Water Company, to prospect for oil.

The Dudley-Dudley Oil Company is planning big

development work in the Lost Hills district. Material is being assembled for 225 wells.

The Buena Fe Petroleum Company has been incorporated at Bakersfield, with a capitalization of \$10,000. The incorporators are: Thomas O'Donnell, E. L. Doheny and C. E. Doheny, all of Los Angeles.

James O'Donnell, of Los Angeles, and associates have secured control of several hundred acres two miles southwest of McKittrick. They will give the land a good test.

The Mexican Petroleum Company, Ltd., has declared a dividend of \$2 a share on the preferred stock. This is the first dividend since August, 1913, and \$240,000 will be distributed.

The North American Oil Company is preparing to operate and will drill twenty wells on the Mount Diablo lease. It has contracted its output to the Standard.

The Gilroy Oil Company has been incorporated with a capitalization of \$500,000. The incorporators are S. C. Graham, J. E. Fishburn, C. C. Teague, D. F. Perkins and S. E. Probst.

The Puritan Oil Company has incorporated at Los Angeles with a capitalization of \$100,000. The incorporators are H. J. Rness, E. Heron, M. O. Krieg, Stewart Langhlin and L. Royce.

Pennsylvania oil is still advancing and is now selling above the high record level of \$2.50 of ten years ago. In the California field it is said the influence of this increase is being felt.

The Standard Oil Company has taken a twenty-year lease on 770 acres on section 6, 7 and 8, 30-22, McKittrick field.

The Spellacy associates have refused to renew the option given the Cullinan interests on properties in the Panuco district, Mexico.

The Central Oil Company reports decreased expenses and increased revenues from its operations in the Whittier field in 1915.

California fuel oil is rapidly displacing coal in British Columbia, and protests are being made to the government to have a prohibitive tax levied against the oil.

The Salt Lake field is experiencing a revival of interest. Preparations are being made to put down twenty new wells in the district by the owner of the Gilmore ranch.

The Associated Oil Company is drilling test wells on section 30, 28-28, Kern River field. The test well is for the purpose of determining whether there is a producing sand under the top sand that has yielded a large quantity of oil.

The Moore & Scott Iron Works, of San Francisco, have closed a contract with the Huasteca Petroleum Company for the construction of an oil tank steamship at a cost of \$1,250,000. It will take a year and three months to build the vessel.

The H. S. Williams Oil Company is preparing to sink three wells on the old Smith and Williams lease, on the north McKittrick front.

The General Petroleum Company has announced its intention to drill eight new wells in the Lost Hills District.

The Associated Oil Company is preparing to drill two new wells on section 13, 26-20, Lost Hills district.

It is reported that the Dudley & Dudley Oil Company expect to begin heavy development work in the Lost Hills district soon.

The National Pacific Oil Company is preparing to drill No. 4 well on section 30, 12-23, Taft district

T. W. T. & M. Oil Company is preparing to redrill well No. 1 on 25 hill, section 25, 32-23, near Taft.

The Berry & Keller Oil Company is preparing to drill a water well on its lease near McKittrick.

The Fairfield Petroleum Company has incorporated at Los Angeles. The capital is \$10,000. The incorporators are E. L. Doheny, J. M. Danziger, O. D. Bennett, Norman Bridge and Olin Welborn, Jr.

The Coalinga Mohawk Oil Company has its well No. 7 down 3550 feet on section 12, 30-15 west. The oil sands will be entered at about 3940 feet.

The Trojan Oil Company's No. 1 well, on section 32, 12-23, of the Maricopa flat, which was brought in several months ago is producing steadily at the rate of 650 barrels of 27.5 gravity oil a day.

Directors of the Alberta-Midway Oil Company, operating on section 14, 31-22, in the Midway district, have levied a nsassessment of 4 cents a share, delinquent May 2, 1916.

The National Pacific Oil Company has levied an assessment of a quarter cent a share, delinquent April 26, 1916.

The Mexican Petroleum Company has authorized a statement that it has just closed a contract with a large American steamship company for a total of more than 10,000,000 barrels of oil, to be delivered within five years.

Rittman Process Proves its Worth

At the coming meeting of the Independent Producers Agency, to be held at Bakersfield this week, there is to be submitted a proposition from the executive committee that the agency be authorized to acquire a license from the government to install a Rittman Refinery, the first to be installed on the Pacific Coast. The idea is to erect an experimental plant to test thoroughly the commercial possibilities of the system as applied to low grade California oil, which constitutes the bulk of the production of the members of the agency.

Fifty-eight per cent of gasoline has been recovered by Dr. Rittman from 14 per cent Kern River field oil, in laboratory research in Pittsburgh, Pa. By the ordinary process of refining it does not pay to extract gasoline from Kern River oil.

Patents Recently Secure.

The following recently granted patents, of interest to the oil trade, are reported expressly for the California Derrick by Joseph M. Nesbit, patent attorney,

Park Building, Pittsburgh, Pa., from whom copies may be procured for 15 cents each:

Apparatus for operating sulphur-wells, William Daniel Huff, La Fayette, La., assignor of three-fourths to Louise Guidry Moss, New Iberia, La., 1,170,266.

Tool-fishing socket, Chester A. Rasmussen and Robert M. Clark, Yenangyaung, Upper Burmah, India, 1,170,329.

Well shut-off, George Marvin Savage, Los Angeles, Cal., 1,170,851.

Pump, Matthew T. Chapman, Aurora, Ill., assignor to The American Well Works, Aurora, Ill., 1,170,512.

Heating means for mineral oils, Clarence E. Graves, Wellsville, N. Y., assignor of one-half to Edgar Emerson, Wellsville, N. Y., 1,173,107.

Automatic gas shut-off, Elmer Jno. Hinkson, Erie, Pa., 1,173,966.

Pumping machinery (2), Matthew T. Chapman, Aurora, Ill., assignor to The American Well Works, Aurora, Ill., 1,17,121, 1,174,122.

Cage for gasoline-tanks of automobiles, Arthur G. Hicks, Sargents, Colo., 1,174,147.

Auger-machine for boring blast-holes, Harry F. Johnston, George E. Wagner and Robert M. Downie, Beaver Falls, Pa., assignors to Keystone Driller Company, Beaver Falls, Pa., 1,174,163.

Well-drilling bit, Robert A. Marney, Alma, Texas, assignor of one-half to Newton W. Taylor, Alma Texas, 1,174,332.

Pipe-gripping device, Martin W. Palmer, Peace, Texas, 1,174,437.

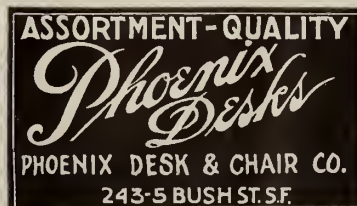
Rotary boring-drill, Thomas J. Griffin, Los Angeles, Cal., assignor, by mesne assignments, to Sharpe-Hughes Tool Company, Houston, Texas, 1,174,568.

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SAN FRANCISCO

Decline in Gushers

The Oil Gas department of the California Mining Bureau calls attention in a recent bulletin to the decline of gusher production in the California oil fields as indicated by reports of new wells during March. The total production of the wells completed during March was less than 10,000 barrels a day, or less than half the production daily of the Lake View gusher when it was running wild. The completion is considered notable, which is quite a reflection on present producing conditions in California.

Report of Amalgamated Oil Company.

The Amalgamated Oil Company and proprietary companies report income account for 1915, as follows:

RECEIPTS:

Operating income	\$1,525,931.63
Interest received	4,445.50

Total	\$1,530,377.13
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DISBURSEMENTS:

Operating expenses	\$ 807,472.04
Taxes	37,536.02
Interest paid	888.88
Reserved for depreciation	195,300.82
Balance to profit and loss	489,179.37

Total	\$1,530,377.13
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Report of West Coast Oil Company.

The West Coast Oil Company, a subsidiary of the Associated Oil Company, reports the following income for 1915:

RECEIPTS:

Operating income	\$ 475,347.76
Interest received	1,383.75

Total	\$ 476,731.51
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DISBURSEMENTS:

Operating expenses	\$ 146,172.20
Taxes	10,265.97
Interest paid	6,055.72
Reserved for depreciation	109,991.16
Dividends paid	187,344.90
Balance to profit and loss	16,902.46

Total	\$ 476,731.51
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Sterling Oil Company's Report.

The Sterling Oil and Development Company, a subsidiary of the Associated Oil Company, reports the following income for 1915:

RECEIPTS:

Operating income	\$ 122,512.75
Interest received	952.95
Balance to profit and loss	89,111.83

Total	\$ 162,577.53
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DISBURSEMENTS:

Operating expenses	\$ 73,065.11
Taxes	1,942.45
Reserved for depreciation	37,569.97
Dividends paid	50,000.00

Total	\$ 162,577.53
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Gasoline Prices and How to Lower Them

The recent increase in the price of gasoline has given rise to much comment on "unscrupulous" methods of corporations, because half of the people do not think for themselves. They talk the talk of agitators and demagogues as being gospel and follow blindly with no consideration of conditions. There is but one hope for a speedy reduction in the price of gasoline, according to Van H. Manning, the director of the United States Bureau of Mines, of the Department of the Interior. He says that the solution of the problem lies in the use of the Rittman process of extraction. He contends that prevailing prices for gasoline will not only continue for some time, but they will probably increase before there comes permanent relief. He points out that the oil competition to supply the United States with gasoline for the coming year offer it at 31 1-2 cents a gallon for the whole year, and he argues that if the United States, using enormous quantities of gasoline, is compelled to pay this much, the private consumer will have to pay much more. Furthermore, Mr. Manning says that with the rate of production the same as in 1915, the crude oil supply of the United States from which we have been getting our present supply of gasoline, will be exhausted in 27 years, for the production is not going to remain stationary. The demand for gasoline has increased more than 200 per cent in the last five years and is now increasing at an even faster rate. On January of this year there were 2,225,000 automobiles in use, and automobile manufacturers estimate that this will be increased to 3,000,000 by January 1, 1917. As the average automobile will use more than ten barrels of gasoline a year this means an increased consumption of more than six million barrels of gasoline.

"And what is still more important to the situation, present indications forecast a decreased production of gasoline from crude oil for 1916 rather than an increased production are being sold for less than the cost of production. The daily production of crude oil for February of our refinable crude oil, was 40,000 barrels less than the average daily production for 1915, and 20,000 barrels less per day than the average daily production in 1914, and this is in the face of the strong incentive to find new fields given by the rising market of the past six months, which has culminated in record high prices for that field of \$1.55 per barrel for the crude, with, in some cases, a premium exceeding 40 cents a barrel.

"The demand for gasoline has outstripped the demand

for all other petroleum products with the result that these other products, amounting to about 75 per cent of the output in the mid-continent field, which produces 75 per cent of the production. In other words, 25 per cent of the production consisting chiefly of gasoline, must pay all the costs in addition to the amount that is lost in marketing the remaining 75 per cent.

"We are exporting at the present time 20 per cent of our entire production. We are burning 25 per cent of our petroleum under boilers, which is a shameful and criminal waste of precious natural resources and we are using another 20 per cent of our crude petroleum inefficiently in competition with coal as in the manufacture of artificial gas. Three fourths of the entire amount of artificial gas in the country is made from petroleum. This gas could be made from coal, except that the gas manufacturers are able to make it at less cost from petroleum, owing to the lower cost of oil as against coal. It is needless to say that petroleum should not be used for this purpose.

"The solution of the problem is conservation—our petroleum resources being put to their proper uses. Let us stop this wasteful foolishness of burning petroleum under boilers and the use of crude oil in the making of artificial gas. If by means of cracking processes, such as the Rittman process, our kerosene and fuel oils, which we have been using in competition with coal and selling for less than the cost of production, can be converted into gasoline, the present production of crude petroleum would be more than ample to supply our present demands for gasoline. Not only that, but the general adoption of these processes would result in extending the life of our petroleum deposits, based on the present demands, from 27 years to more than 100 years, at the same time reducing and stabilizing the cost of gasoline to the consumer and preventing rapid fluctuations in price. Ten different refineries are now installing the Rittman process and more companies are considering doing so. This is but a drop in the bucket, but the situation is hopeful.

"The importance of petroleum cannot be measured by dollars and cents. Figures cannot convey an idea of the dependence of many industries upon petroleum products of one kind or another. Lubricating oils, all of which come from petroleum, are absolutely necessary to our very existence. It has been computed that the machinery of the nation requires approximately one gallon of lubricating oil to each 300 h. p. per day, roughly speaking.

Every automobile built adds to the demand for lubricating oil; every ship launched; every car; every locomotive must be supplied with lubricants, and petroleum is the only known source of supply. Today we are burning this precious lubricating oil under boilers as fuel oil,

without adequate financial reward and with utter disregard to the nation's future requirements. One student of the oil situation says that through the wasteful use of the petroleum resources the United States is now confronted with a national crisis of the first magnitude, and he may not be far wrong."

The World's Petroleum Situation

SPECIAL LETTER TO THE DERRICK

LONDON, ENGLAND, March 30:—Twelve months ago the oil industry was in a condition of great disorganization, its worldwide ramifications making it peculiarly susceptible to international disturbance. Consequently the prices of crude oils finished in 1914 at a low ebb, the trend of values having been in striking contrast to the previous year, when record prices were attained. The past year has again seen prices on the upgrade, with the result that in the United States Pennsylvania crude, which opened at \$1.45 per barrel, closed at the top figure of \$2.15, and Baku crude, which opened at 30 kopeks per pood, closed at 51 1-2 kopeks, after touching 55 kopeks in August. Pennsylvania crude was as low as \$1.35 in May but prices all over have uniformly tended in favor of producers. As usual, the quotations of refined products have followed fairly closely in the wake of crude prices. Water White American on the London market closing at 11d., as compared with 8 3-4d. per gallon in January last; American pale lubricating oil at £18 per ton, as compared with £9; American filtered cylinder at £18 5s per ton, as compared with £12 12s. 6d.; and motor spirit, best quality, at 2s. 2d., as compared with 1s. 9d. per gallon. Official quotations have been unobtainable for fuel oil throughout the year, the Government having retained a more or less rigid control of the supplies.

Estimates of the world's aggregate production in any given period are always difficult to make with any degree of confidence, but under existing circumstances they are liable to be even wider of the truth than usual. Reliable statistics for 1914 show the total output to have been 58,030,000 tons, an increase of 7 1-2 per cent. over the preceding year, which approximates in a remarkable degree 1913's increase of 8 per cent. Practically all the great producing countries show declines, with the exception of the United States, where the output reached the unprecedented figure of 42,000,000 tons. Russia was credited with 5,460,000 tons, Mexico with 3,600,000 tons. The Far East with 1,800,000 tons, Rumania with 1,770,000 tons, British India with 1,100,000 tons, and Galicia with 700,000 tons, the balance of 1,600,000 tons being allocated under the generic heading of "other countries." Obviously had it not been for the war the expansion of the world's production would have been truly remarkable, and it seems reasonable to assume that unprecedented developments may be anticipated after the cessation of hostilities.

During the first six months of 1915 the output in the United States was officially estimated at 145,000,000 barrels, to which Kansas and Oklahoma contributed 58,000,000 barrels and California nearly 45,000,000 barrels. The production during the second half of the year will probably have exceeded that in the first, so that the previous year's record total of over 290,000,000 barrels will again be substantially exceeded. One of the features was the big increase in the output of the Cushing field. For a

time American shipments were seriously interfered with by the German submarine campaign, but despite the destruction of a number of large tankers and the internment of others, communication was gradually restored to the normal, and the figure for the 12 months will substantially exceed those of the previous year. For the fiscal year ending June 30 the exports totalled 2,176,427,000 gallons, as compared with 2,269,218,000 gallons in the preceding period, representing a decline of no more than 4 per cent. The decrease was attributable to illuminating and crude oil and residuums motor spirit showing an increase.

Although the output for the first six months of the year showed a decline of nearly 8,000,000 barrels, California is easily the most important of the petroleum producing states. As a matter of fact, the economic condition of the industry has greatly improved during the year, partly by reason of the decline in the production, which has permitted of the liquidation of a portion of the huge stocks, amounting to approximately 60,000,000 barrels of crude, which had been accumulated. The outstanding features have been the absense of prolific spouters and the steadily increasing demand for refined products. At one time only a low grade oil producer, California now supplies a much higher grade, and two-thirds of the crude recovered is refinable. The opening of the Panama-Canal has greatly improved the prospects for the overseas expansion of the Californian petroleum industry, and not only are shipments to Japan and the Far East steadily increasing, but cargoes have also been consigned to the Atlantic seaboard and to the United Kingdom itself. Great developments are foreshadowed when peace is restored to Europe.

Production in Mexico has been retarded by the unsettled state of the country. If all the wells at present available were permitted to flow to their full capacity their capacity would total 150,000,000 barrels per annum, whereas actual production has probably been between 20,000,000 and 25,000,000 bbls. Keen interest was aroused by the announcement that the biggest deal on record had been concluded by Mr. E. L. Doheny, president of the Mexican Petroleum Company, with a group of English shipowners, which includes all the important transatlantic companies. By the contract the Mexican Company undertakes to supply for 25 years a certain proportion of its total production. The terms of the contract involve the formation of a New English company to build bulk storage stations and handle a great fleet of oil tankers, ultimate cash investment being estimated at £10,000,000. One half of the capital stock of the new company was to be held by the Mexican Petroleum Company and the other half by representatives of the consuming concerns. It is understood that the shipowners have agreed to fit all their new ships with oil-consuming engines on the internal combustion principle. The deal was negotiated for the

shipowners by Lord Pirrie, chairman of Harland and Wolff, Belfast.

Estimates of the total Russian production vary, but the latest information indicates that the overhead decline as compared with 1914 will be little more than infinitesimal. Taking the operating year as concluding with October, the total production is given as 550,000,000 poods, showing a decline of 36,000,000 poods as compared with the previous corresponding period but with decline for 12 months of 1915 is placed at a considerably smaller figure. The output on the principal fields has been stationary or even retrograde, but on the newer and secondary fields exploitation has met with marked success, resulting in an increased production. The Surakhani field, for instance, shows steady development and Emba has almost doubled its output as compared with two years ago.

Despite the scarcity of labour the production of crude oil in Baku will show a moderate increase, and will exceed 400,000,000 poods. The increase is largely accounted for by the satisfactory developments on the Bebe Aibat area, where spouters have added materially to the output. This abnormal yield is now on the decline, the more prolific horizons showing signs of partial exhaustion. The production in the four main areas is maintained with great difficulty. Baku has now been under exploitation for over 40 years, and the average production of the wells has diminished considerably, while the cost of production shows a tendency to increase, which is accentuated under present conditions. Accordingly, even where a large output has been secured profits have been frequently cut into to a very considerable extent. During the past year, however the margin available has been unusually wide, very high prices ruling for nine months of the period. The present price of over 50 kopeks per pood compares with an average of 38 kopeks in 1914, and 43 1-2 in 1913, while the average for the year 1903 to 1911 inclusive was no more than 17.4 kopeks.

The output of Grosny for the year may show a decline of about 9 per cent. During the previous twelve months an easy record was established with 99,445,000 poods, being an increase of 33.6 per cent over 1913. In 1908 the output was only 52,000,000 poods. There are about 24 distinct firms operating in the field, of which over a score were actually producing oil. The wells numbered about 450. The field severely felt the effects of the war, the closing of the Dardanelles putting a stop to oversea exports, while the land export was also checked. The Ministry has granted permission to lay a pipe line to Touapse on the Black Sea, but there will be a good many difficulties to overcome. Producers, both in the old and new areas, continue to suffer from underground water. The most productive sands are now found at a depth of 1,750 ft. to 2,100 ft. The area under exploitation has been very largely increased by the bringing in of the new Bellik area within the last year or two.

Of all the Russian fields none appeal more strongly to British investors than Maikop, as in it they have intested several millions sterling. Maikop crude oil commands a better price than Baku crude, but progress in developing the field has been slow, partly owing to the misdirection of energy in the early days. The output will show a moderate increase on that of 1914, thanks to the spouter which recommenced acting in March, otherwise the total production would have been considerably smaller than in the preceding 12 months, the wells in exploitation having declined to the

neighborhood of 120. Despite the increased production the exports will show little, if any, increase. An important amalgamation of three of the leading companies was carried through in the course of the year. Among the other Russian fields the Island of Tcheleken is not giving a particularly good account of itself, the production during the first six months of the year showing a decline of 27½ per cent, and the exports of 42½ per cent.

In the early days of the war Rumania was heavily hit, but despite almost constant rumors of its imminent participation in the fray, effected a remarkable recovery, although there has again been a falling away, the production during the first three-quarters of the period under review showing a very slight increase over the corresponding period of 1,298,580 tons. In fact, producers are suffering from an embarrassment of riches, the interruption of transport facilities and the glut of the available storage accommodation making the handling of the additional production a difficult problem. A noteworthy fact is that the increase in the production took place in spite of the suspension of drilling activity. In certain districts all efforts to handle the output had to be abandoned and the oil ran to waste. The history of the industry in Rumania during the last decade has been a record of unqualified success. When the output passed the absorbing capacity of the home market producers lost no time in taking concerted steps to find outside markets, and were ably supported by the Government. One half of Rumania's refined products must seek markets outside and with the closing of the Dardanelles the main oversea outlet was cut off. Producers had to fall back upon the North-west outlet into Germany, that country undoubtedly securing large quantities from this source despite the efforts of the Rumanian Government to prevent it.

When writing last year Galicia had been occupied by Russia, but it had again to be surrendered to the enemy in May last. During the eight months of the Russian occupation the exploitation of the oil fields proceeded with great smoothness. When the Russian armies began their retreat they destroyed 320,000 tons of oil lying in storage reservoirs and destroyed 229 out of a total of 319 wells in the Tustanowice field. Since then much of the damage has been made good, and production is now being maintained at a higher level than at any time since the outbreak of war, being estimated at the end of the year to be at the rate of practically 55,000 tons a month. The State is requisitioning nearly 70 per cent of the total crude output at an all-round figure of 100 kronen per ton. For the proportion not required by the State somewhat higher prices are being secured, ranging up to 130 kronen per ton for Boryslaw crude. Satisfactory progress is also being made on the Western Galician fields.

The imports of petroleum during 1915 totaled 595,158,694 gallons, a decrease of 51,553,937 gallons as compared with the preceding year. The actual imports, as a matter of fact, were larger than in the preceding period, but the above figures, taken from the Board of Trade Returns, do not include Admiralty imports of fuel oil. According to the above statistics, the receipts of fuel oil showed a decline of 80,491,000 gallons at 132,184,000 gallons, burning oil being also down by 5,397,000 gallons at 144,734,000 gallons. Motor spirits, on the other hand, showed an increase of 25,909,000 gallons at 144,939,000 gallons, lubricating oils of 10,143,000 gallons at 76,790,000 gallons, and gas oil of

7,033,000 gallons at 90,139,000 gallons. Despite the substantial decline in the volume of the imports their value increased by \$622,274 to \$13,378,481.

CALIFORNIA RANKS FIRST

The National City Bank of New York is always alert and awake to all industrial conditions that have influence on the business of the country, and in its April monthly circular letter it devotes much space and attention to the petroleum industry. In this discussion it takes the views of Secretary of the Interior, Franklin K. Lane and comments thereupon. The estimate of Mr. Lane of the percentage of exhaustion of the principal oil fields is of particular interest to Californians, for he ranks this state first among the fields which still has fifty per cent of their petroleum supply untouched.

Commenting on the report of the petroleum and gasoline situation submitted by the secretary of the interior in response to a resolution of the United States senate the National City Bank says that Secretary Lane bases his verdict that "production of crudes has been generally regarded as near its maximum" on his estimate of the percentage of exhaustion of the country's principal oil fields.

The Lima-Indiana field, he finds, is 93 per cent exhausted; the Appalachian, 74 per cent; the Gulf Coast and Colorado, 79 per cent each; the Illinois, 60 per cent; the Mid-Continent (Kansas and Oklahoma) 50 per cent; Northwest Louisiana, 47 per cent; North Texas, 40 per cent; California, 34 per cent.

Of the three fields which still have more than 50 per cent of their petroleum supply untouched, California with a production of 89,500,000 barrels in 1915, is far the most important. (North Texas and Northwest Louisiana did not produce one-third of this amount,) and the average gasoline content of California crude is given as only 2 1-2 per cent.

PROPER METHOD OF KEEPING OIL WELL LOGS

Several millions of dollars are spent each year in drilling oil wells in California. In most lines of business an accurate inventory would show exactly what had been obtained in return for the outlay. Many oil operators however, spend their development funds and have little or nothing in the way of records to show them whether or not the work has been done proper or economically. To remedy such a condition the State Mining Bureau calls attention to proper methods of recording drilling operations, and furnishes complete printed forms for the final summarizing of the logs. It is to the interest of all operators to see that their records are so kept, that all the information called for on the Bureau's blanks can be supplied.

The first steps in keeping proper logs is to see that the operation of the drilling crew are completely written down each and every tour, or shift. There are several blank forms in common use which provide a convenient means of making these daily records. The State Mining Bureau does not furnish these forms but many printers are able to promptly supply the want. One of the handiest methods of keeping these daily drilling reports is to have them bound in book form, one page for each tour. A carbon copy of each page should be made, promptly removed from the book and filed in a safe place, because the original book is subject to loss or easily becomes soiled and illegible. The daily drilling reports show the depth of the well at the beginning and also at

the end of the tour, what sort of work the crew was engaged in, the size, weight and amount of casing put in or taken out. It also records the depths at which there were changes in formation, describes or names the formations, and states what evidences there was to indicate the presence of oil, gas or water in the well. Some operators make the carbon copy of the daily report serve as a time card in computing the pay of the crew.

The work of the State Mining Bureau in protecting the Oilfields against infiltrating water depends upon full and complete logs of wells and the law requires that they be furnished to the Bureau. Where poor records have been encountered it is usually found that the operator had not kept daily reports.

STANDARD GETS McKITTRICK LAND

Advices from the McKittrick district state that the Standard Oil Company has acquired 400 acres of land on the North McKittrick front, situated seventeen miles from the city of McKittrick. The tract was formerly owned by Mrs. Anna McPhee, of San Francisco, and is located on the north of Mahaska Oil Company. The two wells on the Mahaska lease have not been operated for some time.

The price paid by the Standard for the McPhee property has not been made public. Development work has already started and a rig is on the ground. A number of other properties are under lease in this same vicinity and this renewed activity on the North McKittrick front is being watched with great interest by oil men of the south, and whatever development may come will be looked upon as presaging very important future operations.

GASOLINE INVESTIGATION

Dispatches from Washington say that the Federal Trade Commission, which is conducting an investigation into gasoline prices, has found that during the latter half of 1915, coincident with a decline of 20 per cent in gasoline production through shrinkage of crude oil production, stocks of gasoline on hand had been reduced by 27½ per cent, leaving less than thirty days' supply on hand on January 1, 1916. On top of this condition the country is now facing an increase of 10,000,000 barrels in the total requirements for 1916, due to the rapid growth of the number of automobiles and auto trucks in use. It is reported also that the investigation shows that during 1915 companies in the old Standard Oil group sold gasoline at an average of 4 per cent below the prices charged by other refineries.

NEW WELL PRODUCES HEAVILY

It is reported from Maricopa that the new No. 6 well of the Lakeview No. 2 Oil Company, which was brought in recently has been cleaning itself out for the past week and is now producing perfectly dry oil at the rate of better than 1000 barrels a day. The well promises to be another well similar to the old Lakeview No. 1, which is, and has been producing at the rate of 700 barrels daily for the past 2 and a half years. This wonderful well kept up a steady production all through the period in which No. 2 gusher was playing havoc with the lease. No. 6 well was completed just after the water was cemented off just above the oil sand and it is proved that there is not the slightest trace of moisture in the oil.

Doheny on Gasoline Prices

The gasoline situation seems to be one of supreme importance at present in the petroleum situation, consequently all information from those in position to be taken as authority is worth while. The following article from Edward L. Doheny seems to be a close analysis of the situation:

"The oil producers of the west, and especially of California, but also of Kansas and Oklahoma, although not to such a great extent, were sufferers until recently because of starvation prices for petroleum. In California, where the percentage of gasoline oil is small, the increase in the selling price of the crude oil, per barrel, is equal to all of the increase in the selling price of the gasoline contained in each barrel of crude oil.

"In other words, the oil producer in California, who was really on the verge of bankruptcy, is getting all the benefit of the increase in the price of gasoline on the Pacific Coast.

"The decrease in production has hit the refiners of light oils more heavily than it has the average crude oil producer. The largest refining company on the Pacific Coast by reason of a decrease in the production of its light oil wells, found its net profit for the year ended December 31, 1915, to be less than 50 per cent of its net profit for 1914, notwithstanding the increase in the selling price of gasoline.

"The selling price of gasoline is too low today as compared with its price of a year ago, when both are taken into consideration in connection with the respective yields last year and this year of the light oil producing districts of the United States.

"The oil producer will be more greatly benefitted than the oil consumer when some way is discovered either of producing a larger quantity of gasoline from the crude oil or of consuming satisfactorily a larger proportion of the crude oil in forms heavier than the gasoline of commerce.

"Oil producers and refiners are spending enormous quantities of money in the effort to produce from crude oil a larger percentage of the gasoline of commerce which is so greatly in demand. My own company, the Mexican Petroleum, is spending \$150,000 now at New Orleans on a special plant with the hope of utilizing successfully what is known as the "Iroline" process, on a laboratory scale, makes it possible to multiply many times the percentage of gasoline that can be extracted from crude oil.

"One thought that must be borne in mind is that the gasoline of commerce is obtained from oil by the simple means of distillation. Any further percentage that can thus be obtained will result from expensive processing of the oil, which will add to the cost of production of the gasoline.

"The lighting or lessening of the gravity of petroleum distillate, in order to produce commercial gasoline, lessens the fuel power of the distillate, so that the production of larger quantities of gasoline from crude oil may be regarded as an economic waste, provided that the heavier distillates so processed and lightened could be used in their original form.

"If the automobile manufacturers and users would give as much time and incur as much expense in the effort to develop some satisfactory mechanical device which could be attached to the ordinary motor, so that distillate or motor spirit of from 45 to 60 degrees Be. gravity could be used satisfactorily as a substitute for the 60 to

62 degrees gravity gasoline of commerce, as the oil producers and refiners are expending in the effort to metamorphose the heavy distillate, they might bring about a better solution of the problem of gasoline prices, than a successful Iroline or Rittman or Burton process can possibly be.

"In other words, instead of attacking the prices of gasoline, which have not increased as much—all things considered—as the prices of many other staples have within the last year; if the automobile users and manufacturers would give their best thought and their greatest effort to determining some way of using a motor spirit which comprises a larger percent of crude oil than does gasoline, while the crude oil people are devoting their energies and efforts to producing a larger proportion of the gasoline of commerce, which the engine makers require, the problem would probably be solved by the one or the other, and probably by both.

Either method would undoubtedly be satisfactory to the producers of petroleum.

"The successful use of a heavier motor spirit than gasoline would be by far the most economical and of greatest benefit both to oil producers and oil consumers. My prediction is that the question of gasoline prices will be settled in one or the other, or both, of these natural ways long before a unanimous conclusion can be reached on the part of the public as to whether or not the present prices are justified and will be maintained."

AS REPORTED BY THE BUREAU

Proposed oil field operations as reported to the State Mining Bureau for the week ending April 29, 1916, shows activity continuing at about the same average as maintained earlier in the year, with thirteen new wells starting, making a total of 216 for the year. There were nineteen wells reported for test of water shut-off, nine deepening or redrilling and three to be abandoned.

Statewide investigation by the Bureau during the past few months has developed enough facts to point out localities especially needing attention to correct damage from infiltrating water. Those areas where the greatest ultimate good can be done will receive first attention. One such area is in the northern portion of the Buena Vista Hills, in the Midway field, where there are two productive oil sands, with another sand carrying a large amount of salt water, lying between them. Early operations did not clearly recognize these underground conditions with the result that some wells have passed into or even through the water sand without landing the various strings of casing in such position as to prevent the water from flooding the productive sands. The matter has been called to the attention of the operators involved, including the Federal Receiver and as all are anxious to proceed with necessary repairs another six months should see a marked improvement in conditions.

The Mining Bureau has given wide publicity to the necessity, both legal and physical, of operators furnishing complete logs of their wells. A great number of concerns, particularly the larger companies, have already complied, but the files are far from complete and therefore those operators and land owners who have not complied with the law may be put at a serious disadvantage when it becomes necessary for the bureau to make final rulings upon complaints involving their property.

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

PATERNALISM GONE MAD

About the middle of April there was printed a press dispatch from Washington to the effect that the government is seriously considering the criminal prosecution of John D. Rockefeller and other Standard Oil officials on the ground that they have failed to obey the mandate of the United States Supreme Court in the civil suit that was brought for the dissolution of the old company.

If John D. Rockefeller or any other Standard Oil official, or if any other person, no matter what may be his position in life, does a criminal act he should be prosecuted. There is and can be no question regarding that. But the fact that certain calamity howlers, certain demagogues, certain "yellow" press, makes assertions without foundation of fact for basis, and the further fact that every small fry politician deems it a safe thing to "smash a corporation," does not make of John D. Rockefeller or of any other person a criminal. When the government ordered the dissolution of the Standard Oil Company into its constituent companies the order was complied with.

Now comes the official prodder who says that because the stock of the old company was distributed to the stockholders of the various companies in proportion to their rights in the matter, the dissolution was of no effect and the men who have benefitted by the ownership of such stock are criminals. He goes further and claims that the individual companies must not sell their stock to any person who has stock in another company, and, still further, that no person owning stock in one company, must buy stock in another.

That is the veriest rot. It is governmental control to an extreme that is unnatural, uncivilized. Whence comes any governmental right to say what man a company shall sell its stock to, or what company a man shall buy stock in?

There is no law, either statutory or constitutional that gives to the government, or to any government official the right to say that if a company has certain stock to sell it must open its books to the general public before they

are open to the stockholders of the company. It is a well recognized fact that in all increases of stock of corporations the present stockholders are given the first opportunity to purchase the new stock. Just why this law of common usage should not apply to the Standard Oil Company is one of the questions that no man can answer.

There is another wild claim being made to bolster up the claim of criminality on part of the Standard Oil officials, and that is the increased price of gasoline. Gasoline has responded to the law of supply and demand just as every other commodity. There is now a range of prices in commodities used in domestic economy that is worse and of vastly more importance than the rise of gasoline. Just why the housekeeper in California should be called to pay more for her fruits and vegetables, her flour and her sugar, than is charged for the same articles in war-ridden Germany and France, is a question as deserving of governmental investigation as is the increased price of gasoline.

If the present price of gasoline is outrageous why is it that the smaller refineries, the independents, do not make and sell the commodity at the low prices demanded by the users? Why lay all of the blame on the Standard Oil Company when there are dozens of others who are selling the fluid at the same price?

The whole attack on the Standard Oil Company is on a parity of the position of the government for the past several years. It is government control run mad. It is an effort at paternalism that is misapplied and that is used purely for political purposes. It is an old belief that one is always safe in attacking a corporation, and the present result of this belief is that the United States today is a victim of frenzied reform that is ruining corporations and all other legitimate business through unwarranted interference and constant hampering by government officials, over-zealous, and over-officious.

The Standard Oil Company, undoubtedly, can fight its own battles, but it certainly does seem that the time has come to call a halt on the pernicious habit of making political capital out of the business interests that have done the most to build up the country.

The great iron and steel companies, the nation-developing railroads, the power companies that have harnessed our water power and made electricity available, the oil companies that have developed almost undreamed of riches from earth's bosom, all have been potent factors in the upbuilding of the nation, yet these are the targets of attack and abuse of every cheap politician who is desirous of riding to power on the wings of demagogic utterance.

Conditions are bad all over the world; prices of commodities of all kinds have gone to heights that are almost criminal because of the greed of individuals as well as corporations, but when the government undertakes to regulate the business of the country it should not begin with the regulation of the sale and purchase of stock.

QUICKSILVER—ITS RISE AND FALL

California quicksilver men thought for a while that they had a regular Monte Christo time coming when quicksilver soared to \$300 a flask, just after the opening of the European war. Old mines were reopened, new mines were developed and everybody that had a quicksilver prospect took on airs of millionaires. Good offers for properties known to contain cinnabar were refused with scorn and it looked as if the old time fortunes of California were to be renewed by this metal.

But it seems that there was manipulation as part of the rise, and then after the manipulators had their gain, England, a party to the play, opened the doors and let quicksilver get out from Europe, and immediately began the slump back to the price that obtained before the trouble across the water. Then \$48 a flask was considered a fair price for quicksilver.

Now the market is demoralized. Recent New York advices state that the metal has dropped back, going even as low as \$112. Prices have been ranging from \$125 to \$150 a flask for some time and now there is a strong tendency on part of both the producer and consumer to hold off until there is a settled basis for operation. The consumer believes the price will go lower, while the producer is convinced that the present low price, as compared with the \$300 price of a few months ago, is caused by more manipulation. Many users are reported to be in urgent need of mercury but they will not order while the uncertainty as to future prices prevail.

California is specially interested in this quicksilver movement because of her numerous cinnabar properties. With a 1 per cent ore and a good price these properties will be very valuable, but with the old price it is hard to make both ends meet unless the ore runs much higher than the usual California cinnabar deposits.

UNION OIL FIGHT DRAGS ON

Much recrimination and counter accusation continues to mark the fight between the Stewart interests and the independent stockholders of the Union Oil Company for control. There is an airing of dirty linen that may do a world of good for the oil business in general, for it shows up methods that certainly are not of benefit to legitimate operations. When an individual puts money into an oil company, even though it be a large paying company, he or she wants to be sure that the stock held brings all it is entitled to and when for any reason there is a diversion of money from its legitimate channels it is bad for the industry as a whole.

There are thousands of people all over the country, who know nothing whatever of the oil business and when they are induced to buy stock they are completely at the mercy of the men who are running the company. If these men in charge desire they can do a lot of juggling of funds and divert vast sums either to their personal benefit or to the benefit of some pet scheme which is not entitled to consideration.

Such developments as have come from the Union Oil case may lead to a little closer inspection of what is being done, and if the small stockholders of all of the companies were to pay more attention to the inner workings of the companies in which they hold stock it is possible that much larger dividends would soon be forthcoming. It is recognized that all companies must be managed by a small few, but the individual stockholder should see to it that his interest is fully safeguarded by those in office.

It is impossible, of course, for most of the small stockholders to know anything beyond what they are told by the officers of the company, but it might be well if all companies had a "stockholders' protective association" which would look into things periodically and see to it that everybody had a fair deal.

CALIFORNIA'S PROVED OIL LANDS

The present extent of proved oil land in California has just been determined by the State Mining Bureau

in the most accurate and detailed study ever given to the subject. The total is 126 square miles, or 80,702 acres, of which 55,842 acres are in Kern County alone. Fresno county is second on the list with 12,218 acres, and Santa Barbara County third with 6,030 acres. The other counties in their regular rank are Orange having 3,305 acres, Los Angeles 2,326 acres, Ventura 749 acres, San Luis Obispo 202 acres and finally Santa Clara takes eighth place with thirty acres. It is worthy of notice that the total area of proved oil land is most insignificant in comparison with the area of the entire state, being less than one-thousandth part, and yet the oil business is one of the State's most important industries.

Estimates of the total amount of oil which can be recovered from the land are little better than pure guesses but it does seem most probable that the average acre will yield much less than fifty thousand barrels.

The areas of the various fields are as follows:

Coalinga, 12,218; Lost Hills-Bellridge, 3,115; McKittrick, 1,086; Sunset-Midway, 44,839; Kern River, 6,974; Santa Maria and Lompoc, 5,900; Summerland, 130; Ventura, 749; Salt Lake, 949; Newhall, 117; Los Angeles City, 380; Whittier-Fullerton, 4,185; Arroyo Grande, 30; Sargent, 30; Total 80,702.

NEW PRODUCTION OF GASOLINE

According to the last Bulletin issued by the Bureau of Mines much has been accomplished toward the production of gasoline by what is known as the "cracking process" of extraction and production of gasoline. The report says:

"A large number of processes have been patented for the production of increased quantities of gasoline or motor spirits from the heavier hydrocarbon mixtures by destructive distillation.

"Of all these processes only one so far as known is in extensive use in the industry, this being the well-known Burton process, which is owned and controlled by the Standard Oil Co. of Indiana, and has been rather generally employed by the various Standard Oil companies at different periods. The fact that the Standard Oil marketing companies have put in large and expensive installations involving the use of this process is the best possible indication of the need of efficient cracking processes in the industry. * * * There can be no question that the use of this process in the past few years by the Standard Oil companies has contributed greatly to relieve the threatened shortage in the supply of gasoline. The process itself has been a real conservation factor so far as American petroleum resources are concerned, and too much credit cannot be given to the inventor as well as to companies whose faith and energy have made its successful development possible."

In addition to this Burton process the Rittman process, the patents of which are owned by the government, has come into prominence. In both cases, crude oil or distillates of crude, lower than gasoline, are cracked under heavy pressure, with the result that double or even three times the amount of gasoline formerly obtained is extracted from the same amount of crude.

Undoubtedly higher prices will have to rule until new supplies are obtainable from some source, substitutes are developed, or consumption is adjusted to the reduced supply. In the past discoveries of new oil fields have always resulted from high prices, and the present demand offers a great reward to the inventor who can meet the situation.

Oil Field Development

Oil field development in California, according to the State Bureau of Mines, is showing great activity, and many new districts are being prospected with indications of success. During the week ending May 6th twenty-seven new wells were started, and from present indications there will be twice as many new wells in 1916 as were started in 1915.

A question of vital importance to all operators is the distance at which wells are drilled between boundary lines of properties. It is a generally recognized fact that operations conducted on a basis of business foresight and fair dealing require that neighboring operators should agree to drill all their line wells at a fixed distance from the boundary. Any other plan is based on an effort to take undue advantage of the neighbor in obtaining oil under his land, and if carried to its logical conclusion results in a drilling war benefiting no one and causing unnecessary expenditure in drilling needless wells. According to the Bureau there have been a few such cases and steps are being taken to protect the operators who are disposed to do right in the matter.

A number of new fields have come into view during the past month through wildcatting, and in some instances there has been renewed operation in fields that have been abandoned. It is of interest to note that several of the larger companies are preparing to begin drilling operations in fields tested several years ago, and apparently abandoned at that time. It now develops that instead of an abandonment the field was simply closed down until such time as conditions made it necessary or wise to reopen them.

Under this new condition certain portions of Monterey, San Benito and San Luis Obispo counties are now being looked into, with active work going on in a number of places where, while geological conditions have always been looked upon as good, distance from adequate transportation lines have been considered an obstacle. It is now a recognized fact, however, that transportation is a minor factor, except as an immediate hindrance, for where good oil is discovered in paying quantities it can readily be sold, temporarily to the railroad which will carry the operations until such time as pipe line connection can be made.

In Monterey county extensive preparations are now being made for development work, and the Standard and Union Oil Companies are both reported as making arrangements to reopen fields that have been lying dormant for several years. Notably this applies to what is known as the Peach Tree Ranch district, and to all that valley in the southern end of Monterey county. The geological formation of this district is almost exactly the same as that at Coalinga and it is understood that in some of the test wells drilled several years ago by the Standard a high grade oil was found at much less depth than at Coalinga.

In San Luis Obispo county much activity is evidenced and not only the Standard and Union are beginning work, but several independent and minor companies are going down on what has the appearance of being first class property. The Standard has encountered most favorable results in a number of prospect wells, oil sand being reached at 500 and 700 feet, with every indication of better flows on the lower sands.

Near the work of the Standard, which has large

leaseholds, is the property of the Trisselman Brothers on which they drilled for water and at a depth of 500 feet brought in oil in such quantity that the Standard offered to furnish all casing if the well were drilled deeper. Much secrecy is surrounding this operation, and there is evidently much more in the way of indication than is given out.

Adjoining the Trisselman property on the northwest is the property of the Co-operative Oil Land Company which lies adjacent to Standard properties on which development is being made. On this property all preliminary work toward drilling has been completed, such as road building, hauling of supplies, erection of drill houses and outbuildings, and the erection of a ninety-foot derrick. Twenty tons of machinery has been shipped, including both a Standard and a Portable drilling outfit, which is a Keystone No. 4, which is to be used primarily to secure water, as all the water now available is brackish and unfit for boiler use. Prior to the drilling of a water well on any of the property in this district all water for domestic or boiler use must be hauled from the San Juan river, a distance of more than a mile.

On the San Juan ranch, adjoining the Co-Operative property, a well has been drilled to a depth of 1,900 feet which is showing evidence of becoming an excellent producer. At the present time this well is involved in litigation as the parties who drilled claim that if they struck paying oil they were to be deeded certain portions of the property. Oil was encountered and demand made for the deed, but through some cause the owners have refused to comply with the agreement.

The Co-Operative Oil Land Company is a new venture in the oil business and instead of being owned in shares it is operated directly by lot owners who purchase land outright and work in co-operation through the parent company, thus avoiding the dangers incident upon share-holding.

According to investigations of oil experts it is believed that this new San Luis Obispo county field will prove to be one of the best coming oil fields of California. The oil so far encountered is of high gravity and the oil sands vary from 700 to 2,000 feet down.

Geological investigations indicate that a new territory of great extent and of high grade oil will soon be developed in the lower San Benito county region. There is an exact geological formation here as is to be found in the Coalinga district, and the Union Oil Company drilled three wells here several years ago and then surrounded them with secrecy and capped them. The Union has obtained large lease-holdings here and the Standard also secured leases on many thousand acres. The transportation difficulties which have obtained and which have been a bar to development in this district will be overcome as soon as either of the big companies start their operations. It is reported that new work will begin in this district within the next month or two and that both the Standard and the Union will go down to make a thorough test. The oil sands lie at a depth of from 700 to 3,000 feet.

In Humboldt county efforts are being made to reopen the prospect work in the vicinity of Petrolia, where surface indications are to the effect that a high grade oil

may be found there. No depth test has yet been made, but it is believed that oil will be found under 3,000 feet.

Activity is also reported in Sonoma county, where seepage and geological formation give cause to believe development will be successful. As a matter of fact the entire northern part of California holds prospects of some day developing into a good paying territory, but efforts there have been of such sporadic nature as to give no adequate idea of the possibilities. According to Secretary of the Interior Franklin K. Lane, not more than 50 per cent of California oil fields have been exploited, and if this estimate be true we must look for development in untried districts.

OIL FIELD NEWS

A substantial gain is noted in production for March, the output for the month averaging 242,656 barrels daily as compared with 223,495 barrels daily during the February period, says the Standard Oil Bulletin.

Shipments at the rate of 276,378 barrels daily resulted in a stock decrease of 1,045,388 barrels.

Shut-in production is estimated at 10,000 barrels daily.

Thirty-four wells were completed during the month, with an initial daily production of 6,790 barrels.

The large number of new rigs erected (76) is evidence of the activity now prevailing in the fields.

Summary of developments and production for all California fields for March is as follows:

FIELD	New Rigs	Drilling Completed During Month	Abandoned Wells	Producing Wells	Production Per Day
Kern River	11	18	2	1,743	24,020
Mc Kittrick	1	32	1	280	8,819
Midway-Sunset	27	53	15	1,483	106,653
Lost Hills-Belridge	24	23	6	261	12,472
Coalinga	3	13	3	772	32,906
Lompoc and Santa Maria	3	6	1	237	11,405
Ventura County and Newhall	22	1	1	441	3,277
Los Angeles and Salt Lake	1	1	1	693	4,864
Whittier-Fullerton	5	66	4	624	37,920
Summerland .....	...	...	...	112	155
Watsonville .....	...	...	...	5	75
Total	76	204	34	6,651	242,656
Total Crude oil stocks, March 31, 1916, 54,975,705 barrels.					
Total shipments from fields, March, 1916, 8,567,730 barrels.					

CRUDE PRICES AT THE WELL

San Francisco, Cal., April 13, 1916. Effective April 1, 1916, Standard Oil Company offers the following prices for crude oil at the well:

SAN JOAQUIN VALLEY FIELDS
(Kern River, Midway-Sunset, McKittrick, Lost Hills-Beverly, Coalinga)

14 deg. to and including 17.9 deg. gravity.....per bbl., \$0.58
18 deg. to and including 18.9 deg. gravity.....per bbl., .59
And for each increase in gravity of one (1) full degree above 18.0 deg. gravity, up to and inclusive of 24.9 deg. gravity, one (1) cent per barrel additional.

25 deg. to and including 25.9 deg. gravity.....per bbl., \$0.67
And for each increase in gravity of one (1) full degree above 25.0 deg. gravity, two (2) cents per barrel additional.

VENTURA COUNTY

25 deg. to and including 25.9 deg. gravity.....per bbl., \$0.67
And for each increase in gravity of one (1) full degree above 25.0 deg. gravity, two (2) cents per barrel additional.

WHITTIER-FULLERTON FIELD

16 deg. to and including 17.9 deg. gravity.....per bbl. \$0.58
18 deg. to and including 18.9 deg. gravity.....per bbl., .59
And for each increase in gravity of one (1) full degree above 18.0 deg. gravity, up to and inclusive of 24.9 deg. gravity, one (1) cent per barrel additional.

25 deg. to and including 25.9 deg. gravity.....per bbl., \$0.67
And for each increase in gravity of one (1) full degree above 25.0 deg. gravity, two (2) cents per barrel additional.

OIL EXPORTS

Following are the exports of domestic oils for February:

	Feb. 1916	Feb. 1915
	Gallons	Gallons
Crude	13,622,822	9,027,971
Illuminating	57,859,390	53,749,061
Lubricating	18,812,904	11,749,952
Gasoline and naphthas	17,686,201	22,671,307
Resid oils	71,055,170	54,544,651
Total	179,036,487	151,742,942
Value	\$11,494,530	\$9,103,091

A market has developed for Pan-American Petroleum stock on the New York curb which indicates that that company is in a strong position. The par value of the stock is \$50 a share and it is selling at \$49. So long as Mexican conditions are as unstable as at present it would seem that Mexican oils would not be in demand, but this price for Pan-American stock indicates unusual confidence in the future.

PENNSYLVANIA OIL ADVANCES

The predicted advance in the price of Pennsylvania crude oil to \$2.50 a barrel has come and this price was announced at Pittsburgh. This is an advance of 10 cents a barrel and those who are in position to know assert that there will be a still further rise in a short time. The advance comes slowly in California, but crude is bound to advance, and the prediction of "dollar oil" will be verified before the middle of 1917.

UNION OIL TRUSTEE PLAN SUCCESSFUL

Reports from stockholders association of the Union Oil Company indicate that the required 171,000 shares have signed up in favor of the voting trust. The committee, however, will continue to get signatures so as to have every possible shareholder sign up and leave the dissenting stockholders in such a minority as to be a negligible quantity.

MORE OIL SUITS FILED

Two additional suits were filed at Los Angeles before United States Court, to recover for the government oil land in Kern County valued at more than \$500,000. The suits are against the Standard Oil Company and others, and each suit seeks to recover 160 acres. Each quarter section of land is valued by the government at \$400,000. The allegation is that development work was not begun prior to the withdrawal order of President Taft.

NEW OIL FIELD FOUND

A report comes from Bakersfield that oil has been found in a water well on the ranch of W. C. and E. W. McCutcheon on section 18.30-30, of sufficient quantity to show on the surface. The well is 545 feet deep and it is known that the drill passed through two strata of oil sand. Even with the sand cased off there was sufficient to arouse interest from the water. The formation and contour of the country is very similar to the Lost Hills district. The oil is of high gravity and it is believed that a new field will be developed.

California Concentrates

The Honolulu Consolidated Oil Company is preparing to drill on section 8, 32-24, near Taft, with rotary tools.

The Kern Trading and Oil Company is rigging up on section 15, 32-24, preparatory to drilling operations.

The New San Francisco Oil Company will redrill well No. 9 on section 6, 20-15, near Coalinga.

The Coalinga Peerless Oil Company will drill well No. 22, on section 22, 19-15; near Coalinga.

The Nevada Petroleum Company will redrill well No. 1, on section 20, 20-15, near Coalinga.

The Standard Oil Company is deepening well No. 3, on section 5, 27-21, near McKittrick.

No. 4 well of the Petrolia Oil Company, near Maricopa, is down 300 feet.

The Calokla Oil Company has requested a lease of 700 acres from the Anaheim Water Company on the river near Fullerton.

The Tumbador Oil Company is to redrill its well on section 23, 31-22, near Fellows, in the North Midway district.

No. 30 well of the Kern Trading and Oil Company, on section 35, 31-23, near Taft, is in with a production of 200 barrels daily.

No. 15 well of the Hale-McLeod Oil Company, on section 8, 32-23, near Taft, is in with a production of better than 200 barrels a day.

Preparations are being made by the Ethel D. Oil Company, at Maricopa, to drill a new well on the company's property on section 36, 16-24, near that city.

The Spokane-Tenino Exploration Company is being formed by Spokane, Washington, capitalists to explore the oil fields of Thurston county, Washington.

James O'Donnell is preparing to drill for the lower oil strata on section 3, near the tank farm of the Shell company at Taft.

The Chartered Oil Company of Phoenix, Ariz., has been incorporated for \$100,000, by B. H. Haynes, E. M. Erhart and D. E. Hayes.

The Prairie Oil Company of Bakersfield has been incorporated by Alex Mark, S. G. Lamb and T. W. Doub for \$50,000.

The California Star Oil Company is to drill ten new wells on its new property on section 24, 26-30, in the Lost Hills Field.

The St. Lawrence Oil Company is soon to drill a new well on its property on section 5, 32-23, between Taft and Fellows.

The New Mexican Petroleum Company, of Phoenix, Ariz., has been incorporated by Granville C. Brown, Charles W. Lockwood and William C. Clark for \$10,000.

The Tex-Mex Fuel Company, of Phoenix, Ariz., has been incorporated for \$1,000,000 by Noah Allen, W. M. Harrison and W. E. Hendly.

The Tia Juana Oil Company is preparing to resume drilling on its property in San Diego county after discontinuing since May, 1915.

The Dominion Oil Company is preparing to begin drilling on section 15, 32-22, near Taft, on wells No. 5 and 6.

The Gulf Oil Corporation has just completed the purchase of a tract of 40,000 acres of oil land in southern Mexico. The consideration is \$300,000.

The General Petroleum Company has rebuilt four derricks and has repaired the rigs of all its producing wells near Coalinga.

Well No. 1, of the General Petroleum Company near Coalinga is being redrilled and will be deepened to the second sand.

The Imperial Standard Oil and Development Company, of Phoenix, Ariz., has incorporated for \$100,000, with Gus S. Berry, W. B. Hart, H. L. Rath, G. C. Gay and M. M. Bogard as incorporators.

S. C. Graham of the Whittier Graham and Loftus Oil Company, and Charles Collin Teague have organized the Gilroy Oil Company and will develop the Martin ranch, south of San Francisco.

No. 3 well of the Petrolia Oil Company, on section 12, 11-24, near Maricopa, has been drilled to the producing sand at a depth of 1,300 feet and the hole has been finished with an 8-inch string.

The Ozena Oil Company, of Los Angeles, has incorporated for \$200,000, with G. B. Hommell, W. H. Jones, R. O. Wrana, J. A. Gray, O. Quandt, J. Lagomarsino and W. Schnelder as incorporators.

The Cascade Oil Company, of Los Angeles, has incorporated for \$10,000 with T. W. Phillips, H. A. Dunn, Stone Hastein, F. R. Campbell and C. W. Hall as incorporators.

The Tunnell Petroleum Company, of Los Angeles, has incorporated for \$50,000, with F. R. Campbell, W. H. McGrady, N. W. Selby, C. W. Hall and James T. McDryde as incorporators.

The Eureka Crude Oil Company, of Los Angeles, has incorporated for \$10,000, with E. A. Clampitt, Henry A. Greene, L. A. Clampitt, John Walker and W. R. Greene as incorporators.

The Segura Migel Oil Company, of Phoenix, Ariz., has incorporated for \$100,000, with M. A. Spellacy, J. H. De Sona, W. G. Power, Raymond Ford, S. Spellacy and John Spellacy as incorporators.

The Los Angeles-Ventura Oil Fields Company, Inc., Phoenix, Ariz., is capitalized at \$2,000,000 and is incorporated by O. J. Stowe, E. R. Wileman and H. E. Hales, of Los Angeles.

On section 2, 19-15, the General Petroleum's No. 7 well has been completed into pay sand and is now making 215 barrels of 18.1 gravity oil a day. This well has been recovered as it was abandoned two years ago on account of water.

It is reported that oil has been struck in No. 3 of the Casmalia Syndicate Company in the northern part of Santa Barbara county. The new well just brought in has a flow of 600 barrels a day and is in a territory abandoned by the large companies after fifteen years exploration.

ANOTHER BIG OIL LAND DEAL

The Mount Diablo Oil and Development Company has sold 120 acres on section 26, 32-23, in the Midway-Sunset field to E. E. Jones, of Bakersfield, at a price of \$100,000 for the tract. There are twelve going wells of fairly good production on the property. Part of this land was formerly held under lease by the March Oil Company. The March lease was bought by Jones some time ago at a price said to be \$100,000, making the total paid \$200,000.

PLUGGING BAD WELLS

A number of complaints have been lodged with the State Oil and Gas Inspector regarding wells that are in bad repair. Many property owners feel that their prospects are being damaged owing to open wells that have been allowed to waste gas. When offending wells are discovered to be in this condition they will be plugged at the expense of the owners if not repaired.

ASSOCIATED OIL GETS PLENTY GAS

The Associated Oil Company is now obtaining gas for all its stations at McKittrick through the pipe line

laid several months ago by the Kern Trading and Oil Company for its wells at McKittrick. The Kern Trading and Oil Company was able to secure ample for its own requirements and also sufficient to meet the needs of the Associated Oil Company. The pipe line extends from Kerto and the gas is supplied from large wells in the Midway district.

GREAT DOME COMPANY APPEALS

An appeal has been taken from the judgment rendered by the United States District Court of Wyoming which gave to W. L. Valentine, of California, possession of 600 acres of land in the Grass Creek district of Wyoming, which was held by the Great Dome Oil Company. The property is valued at \$2,000,000. The court found that Valentine held the land prior to a lease secured by the Great Dome Company, and enjoins the latter from taking out more oil.

COMSTOCK CRUDE TO DEEPEN

The Comstock Crude Oil Company has levied an assessment for the purpose of deepening its 4760 foot well abandoned owing to lack of funds last year, when it was apparently near producing sand. The property is on the Maricopa flat with the nearest producer three miles away. The well passed through several oil sands, and when drilling was discontinued it was in blue shale. A heavy gas pressure had been encountered and all indications were that a little more work would find good oil.

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Standard Oil Company
(California)



CHANGES IN CALIFORNIA PETROLEUM

E. L. Doheny has retired as president of the California Petroleum Corporation, and former vice-president Thomas A. O'Donnell has been elected in his place. W. D. Stewart, who has been chief of the accounting department succeeds O'Donnell as vice-president.

NEW PROPERTY PROVED UP

The Palmer Union's well on its Santa Maria property has reached a depth of 3300 feet and now produces 490 barrels of oil a day on the pump. This well proves up 720 acres of Palmer Union property. The other wells will be sent down to the rich sand at once.

HUMBOLDT COUNTY BEING DEVELOPED

Indications are that another attempt is about to be made to locate petroleum in paying quantities in the vicinity of Petrolia, Humboldt county, California. The present high price of gasoline, together with increased demand for crude oil, has impelled those interested in that section of the state to try again after practically having abandoned the field as being unprofitable.

McKITTRICK A HEAVY PRODUCER

The proven acreage of 1086, at McKittrick, at the close of 1915, held the record for producing more petroleum to the acre than any other district in the state, and in addition had made the largest gain per acre within the twelve months. Since the opening of the field in the early 'Ninties the aggregate production is 46,000-000 barrels.

STANDARD INCREASES WAGES

The Standard Oil Company of California announces, effective May 1, 1916, a general increase of 10 per cent of all employes of the company, wherever located, and who were receiving at that time less than \$3000 a year. This increase affects all skilled and unskilled labor, as well as a large portion of the clerical force. Increased cost of living is the motive which prompted the directors to this action.

GAS RUSH NEARLY WRECKS DERRICK

During the drilling of Well No. 1, by James O'Donnell and associates of Los Angeles, on the newly ac-

quired property about five miles southeast of McKittrick a rush of gas threw sand, rocks and considerable oil above the crown block of the rig. The gas rush continued several hours and nearly wrecked the derrick before it stopped. The well is down 850 feet and this immense pressure of gas and evidence of oil is regarded as indicative of good results to follow the completion of the well.

ALASKA PIONEER ON PAYING LIST

The Alaska Pioneer Oil Company, which is controlled by H. H. Hart and associates, is the latest California company to enter the paying list. A dividend of \$5000 is ordered, being at the rate of 1 per cent a share on the 500,000 shares of outstanding stock. The company was organized about five years ago to operate in the Midway field, and while it has been a steady producer of dividends from earnings at prevailing prices before the recent advances. There are six producing wells on the patented land of the company with a total production ranging from 800 to 1000 barrels a day.

GEOLOGY OF COALINGA

Allen G. and Harry G. Nichols, geologists in the service of the United States Department of the Interior, together with J. W. Kingsbury, special agent of the United States Land Office at San Francisco, spent several days about the middle of April investigating the geological conditions around Oil City and the Kreyenhagen Hills, in the Coalinga district, for the purpose of classifying the district and reporting on the exact geology of that part of California. The report will be issued by the Department of the Interior later, and will be similar to other reports of different parts of the country.

ADVERTISING AND ITS WORTH

In a previous issue the Derrick printed the advertisement of The South Chester Iron Casing, Woods & Huddart, agents, and an error in print as to stocks on hand called the attention of the company to the fact that our readers do read and that it does pay to advertise. While the Derrick management aims to avoid any such errors it would seem that such occurrences forcefully brings the attention of our advertisers to the fact that The Derrick advertiser gets his money's worth.



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LOOK FOR OUR BIG WHITE FREE AUTO BUS.

SHALE TO YIELD OIL

Since gasoline has soared in price many efforts have been made by chemists and geologists to find some way of producing it cheaper and as good as the present supply. One of the most recent reports along these lines comes from New York State, where Dr. John M. Clark, director of science at the State Museum, is preparing to make experiments on rock in the eastern part of the state in search for a new source of supply. He says that the rock is a black shale that fairly reeks with gasoline and oil, which can be produced at slight cost. He says the vein is 150 miles long and there are billions of tons of the rock.

BIG DIVIDENDS THIS YEAR

There will be a distribution of more than \$12,000,000 in dividends by the first rank oil companies of California this year, according to computations of present rates of business of the companies. The Standard, of course, will hold first place as dividend payer and the Associated will be second with the Union a close third in the race. It is believed that a number of the smaller companies will come in as dividend payers this year owing to the increase in prices paid for the product. The three big companies mentioned will pay out a total of more than \$10,000,000.

AMERICAN OIL MEN SENT TO ORIENT

The Royal Dutch and the Netherlands Colonial Oil Companies, of Borneo, Sumatra and Java, have determined to make a thorough test of those countries, and as a result of this determination they have arranged to send eighteen competent drillers from California to make the explorations. These men will be supplied with both rotary and combination drills. The fields of these countries produce light oil at shallow depth. Some of the oil contains 80 per cent gasoline, and the companies interested are in position to become strong competitors in the gasoline trade. The plan is to test out the properties for deeper sands, and they want the best later day drilling methods.

DEVELOPING COAL BY-PRODUCTS

The increased price of gasoline has brought out a number of by-products of coal as substitutes for petroleum products. American chemists and engineers are rapidly developing new commercial uses for by-products of coal. Ammonia has always been in heavy demand and tar and benzol will be required in undiminished quantities after the war. Tar products industries and chemical and dye-stuffs manufactures are rapidly increasing in America and benzol will soon come into use as a motor fuel, a use which is now largely developed in Europe. Coke oven gas constitutes the municipal supply in twelve American cities, and this use is rapidly growing. Steel works and other mills find this gas well adapted for their various fuel purposes, in the open hearths, reheating furnaces, etc. It replaces natural gas and can be supplied at equal cost.

OIL OUTPUT INCREASES

According to the statistical department of the Standard Oil Company of California, the April shipment,

averaging 292,970 barrels daily, show an increase of approximately 16,000 barrels a day over figures for the preceding month. One contributing factor to this increase was the replenishment of consumers' storage. The largest shipment recorded was that for April, 1914, of 292,108 barrels a day.

Production averaged 246,097 barrels daily as compared with 242,656 barrels daily for March.

Shut-in production is estimated at 8000 barrels daily. Forty wells were completed during the month, with an initial daily production of 5,555 barrels.

The ninety-one new rigs erected represent a substantial increase in work initiated during the month.

ACTIVITIES IN THE McKITTRICK FIELD

The Associated Oil Company is preparing to redrill No. 4 on the Western Development Lease, near McKittrick. Four new wells have been sunk on the properties of the Associated within the past four months. Two are on the Giant lease, two on the Western Development lease, and one has been redrilled on the Shamrock lease. The three leases immediately adjoin each other at the south end of the McKittrick field, and the new wells are fair producers at depths ranging from 900 to 1,000 feet. On the Shamrock there are about a dozen wells, all of which were brought in several years ago and their production has always been good, and the gravity of the oil is the lightest in the district. Well No. 3, on the Associated Oil Company's Shamrock lease, holds the record for the greatest producer of the district. It began flowing at the rate of 1,200 barrels a day and continued this for more than three years before the decrease was observed. It is still one of the best in the field.

At the close of March of this year there were 266 producing wells in the McKittrick field, and at the end of April the number increased to 280.

OPPOSES CRUDE OIL FOR FUEL

Van H. Manning, director of the Bureau of Mines, who is considered an expert in petroleum matters, is opposed to the use of crude oil for fuel when it is of a grade suitable for other purposes. His views on the folly of burning crude oil that should be made into lubricants are of interest to California operators because it has been demonstrated that California crude is the best material for making lubricating oils. Manning says:

"The importance of petroleum cannot be measured by dollars and cents. Figures cannot convey an idea of the dependence of many industries upon petroleum products of one kind or another. Lubricating oils, all of which come from petroleum, are absolutely necessary to our very existence. It has been computed that the machinery of the nation requires approximately one gallon of lubricating oil to each 300 h. p. per day, roughly speaking. Every automobile built adds to the demand for lubricating oil; every ship launched, every locomotive, must be supplied with lubricants, and petroleum is the only known source of supply. Today we are burning this precious lubricating oil under boilers as fuel oil, without adequate financial reward and with utter disregard to the nation's future requirements. One student of the oil situation says that through the wasteful use of the petroleum resources the United States is now confronted with a national crisis of the first magnitude, and he may not be far wrong."

The Birch well, in Brea canyon, in the Whittier-Fullerton field, which stopped production for five days after five years continuous flow, has resumed at a rate of 800 barrels a day.

It is reported that a bid of 65 cents a barrel has been made by a Los Angeles dealer for 22 gravity oil produced by the Anaheim Union Oil Company on the Amalgamated lease.

The Standard is to start drilling its No. 3 well, section 27, 28-27, Kern River front, as soon as it can erect the derrick.

The Coalinga Star Oil Company has incorporated at \$200,000, with Thomas A. O'Donnell, M. H. Whittier, T. Yarnell, F. B. Sutton and Rena L. Stombs as incorporators.

The Elmerito Oil Company has been incorporated at Santa Paula by F. H. Dunham, C. E. Moss, M. G. Demerest, A. M. Dunham and W. E. Snyder, at \$150,000.

The Comstock Crude Oil Company drilled a well on its property near Maricopa last year to a depth of 4,670 feet, making a deep well record, and then abandoned the hole. The well has been started again and will go down as far as possible to make a complete test.

Pumping has been resumed on three wells of the Pyramid Oil Company's lease on section 28, 32-24, near Maricopa.

A new well will be drilled on the Ethel D. property on section 36, 12-24, near Maricopa, as soon as No. 30, now drilling, is finished.

PATENTS RECENTLY GRANTED

The following recently granted patent of interest to the oil trade are reported expressly for California Derrick by Joseph M. Nesbit, patent attorney, Park Building, Pittsburgh, Pa., from whom printed copies may be procured for 15 cents each:

Drilling apparatus, Harris T. Dunbar, Buffalo, N. Y. 1,175,725.

Pump, Joseph M. Michaelson, Washington, D. C., 1,175,970.

Gas-analyzing apparatus, George A. Burrell, Pittsburgh, Pa. 1,176,199.

Gas-pressure regulator, Bernardt Mathias Gattermeir, California, Mo., 1,177,314.

Deep-well packer, James G. Stinson, Bradford, Pa., 1,177,971.

Apparatus for refining oil, James R. Timmins and Orlando Swain, Okmulgee, Okla., 1,179,243.

Top for oil-tanks, James H. Wilson and Stevens A. Bennett, Chicago, Ill., assignors to Wilson & Bennett Mfg. Co., a corporation of Illinois, 1,178,895.

George W. Tillson, M. Am. Soc. C. E., Henry G. Shirley, M. Am. Soc. C. E. and Arthur Blanchard, M. Am. Soc. C. E., a commission of engineers, appointed by the Wilmington Chamber of Commerce, have recently submitted a report on the administration, construction and maintenance of highways which are under the jurisdiction of the Levy Court of New Castle County, Delaware.

Foreign Exchange Rules in Petrograd.

Consul North Winship, Petrograd, Russia, writes:

The Russian Government has undertaken the regulation of the sale and purchase of foreign exchange in this city. The new regulations provide:

First, that no bank can sell exchange for use in paying abroad for any of the following goods: Cotton, lathes, leather, machinery, metals, rubber, sacks or bags, tea, wool, or military equipment. All exchange to pay for any of the above goods must be had through the Special Credit Chancellery of the Ministry of Finance, Foreign Division (as was explained in the report on "Foreign exchange furnished by the Russian Government," published in "Commerce Reports" for Jan. 5, 1916).

Second, that if the applicant to the bank for exchange does not desire to pay for any of the above goods, and his need amounts to more than 2,000 rubles (\$1,030 at the normal exchange rate of \$0.515 to the ruble), he must give the bank full particulars regarding the transaction in settlement of which he desires to remit abroad.

About noon every day each bank sends a statement of the total amount of its needs, together with the statement of each applicant regarding his transaction, to a central committee of the Ministry of Finance. The banks must also send a statement of the offers of exchange that have been made to them by the foreign correspondents. Those demands of individuals which the committee deems to be purely speculative or otherwise undesirable are refused and the banks are forbidden to sell exchange to cover those transactions.

Previously each bank's offers from abroad were its own to handle as it saw fit. This is no longer possible as one bank's surplus of offer from abroad over its own needs is put into a general pool from which the committee supplies the needs of other banks whose offers may not suffice to cover all needs. After having arranged so that only legitimate needs may be sat-

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16000 ft.	6-1/4 in. casing	Weight 20 lbs.
17000 ft.	4 in. rotary pipe	

IN STOCK AT ORCUTT

2000 ft.	12-1/2 in. casing	Weight 40 lbs.
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SAN FRANCISCO

TAFT

ified, and that all legitimate needs may be satisfied, the committee fixes the rate at which the banks must fill the demands for foreign exchange.

Already in the last few days the rate has been made considerably more favorable to Russian interests. **Save Your Paper Material.**

The Secretary of Commerce is sending to about 4,000 commercial organizations a letter inviting their co-operation in efforts to relieve the present serious shortage of paper material. The letter states:

It is believed that the chambers of commerce and boards of trade in every city can render a signal service to all the people of the country as well as the paper industry by urging individuals and firms in their respective districts to save refuse rags and papers.

This department is in a position to furnish inquirers with the names of leading wholesalers of paper stock. It is not, however, in possession of the names of smaller local firms which assemble rags and paper and sell them in minor quantities. Inquirers from your locality for such names will be asked to communicate with your organization.

Will you, therefore, have on file in your association a list of local dealers in paper stock which may be furnished to inquirers?

The Post Office Department is cooperating with the Department of Commerce in arousing the public to the needs of the situation by having posted in each office a statement setting forth the present conditions. One million copies of the following statement will be distributed through various channels, and especially with the assistance of the commercial organizations.

The attention of the Department of Commerce is called, by the president of a large paper manufacturing company, to the fact that there is a serious shortage of raw material for the manufacture of paper, including rags and old papers. He urges that the department should make it known that the collecting and saving of old rags and old papers would greatly better existing conditions for American manufacturers.

Something like 15,000 tons of the different kinds of paper and paper board are manufactured every day in the United States and a large proportion of this, after it has served its purpose, could be used over again in some class of paper. A large part of it, however, is either burned or otherwise wasted. This, of course, has to be replaced by new materials. In the early history of the paper industry publicity was given to the importance of saving rags. It is of scarcely less importance now. The Department of Commerce is glad to bring this matter to the attention of the public in the hope that practical results may flow from it. A little attention to the saving of rags and old papers will mean genuine relief to our paper industry and a diminishing drain upon our sources of supply for new materials.

A list of dealers in paper stock can be obtained from the local chamber of commerce or board of trade.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912

of California Derrick, published monthly at San Francisco, California for April 1, 1916 State of California, City and County of San Francisco, ss.

Before me A. L. MacDonald, in and for the State and county aforesaid, personally appeared E. L. Mackey, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the California Derrick, and that the following is, to the best of his belief, a true statement of the ownership, management (and if a daily paper, the circulation) etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit: That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, California Derrick Publishing Co., 509 Sansome Street; Editor Dr. Clarence E. Edwards, 417 Montgomery Street; Managing Editor Dr. Clarence E. Edwards, 417 Montgomery Street; Business Manager Earl L. Mackey, 509 Sansome Street; That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding one per cent or more of the total amount of stock.) Dr. Clarence E. Edwards, 417 Montgomery St., E. L. Mackey, 509 Sansome St. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: NONE. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as a trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirectly in the said stock, bonds, or other securities than as so stated by him.

E. L. Mackey

Sworn to and subscribed before me this 3rd day of April 1916
A. H. MacDonald, (My commission expires June 28 1917)

PROFESSIONAL DIRECTORY

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 September 7, 8, 12, 13.

Tickets will also be sold to Buffalo, N. Y., July 4, 5 and 6, August 1, 2 and 3; to Cincinnati, Ohio, July 11, 12 and 13; to Davenport, Ia., July 26, 27 and 28; to Chattanooga, Tenn., September 11 and 12.

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417 Montgomery Street
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VOL. IX.

SAN FRANCISCO, JUNE, 1916

No. 10

Through the Central Fields

What actualities exist in the oil fields of California can be learned only through a personal visit to the different fields, and that there is much more going on than one has an idea of was firmly established in the mind of the editor of the *Derrick* during a recent visit to the district around Maricopa, Taft and Elk Hills, then on over toward the ocean in the Sespe country.

We have heard much of increased activity but the realization of what this means came home when it was learned in the different fields that it was impossible to get men enough to do the work that was going on and being projected.

It has been but a few months since vacant houses and "To Let" and "For Sale" signs were to be seen all over the towns of Maricopa and Taft. Now there is not a vacant house and all of the signs showing that the owners were trying to dispose of the houses have been taken down. Business houses report greatly increased business and at night, when the workmen return from the fields, the streets are thronged just as they were during the boom times of the old days. New derricks are to be seen on every hand and piles of pipe and lumber are being hauled out to new locations.

In Maricopa work is extending down along the Flat and longing eyes are being cast at the Naval Reserve lands along the edge of the hills. The stores are filled with people in the evenings and report more than double the business done three months ago. One restaurant reported that six months ago its income, gross, was \$20 a day. Now it is more than \$100 a day.

At Taft the same conditions obtain, and reports from all outlying districts are the same. The McKittrick and Sunset fields are overflowing with energy and the de-

mand for labor is increasing and becoming a vital question.

There is a great demand noticed for new equipment, and the supply men are feeling that an era of prosperity has arrived to repay them for the long lean days. It is now much more difficult to fill orders than to get them, for the war orders in the East have stripped the whole country of metal. Second-hand machinery is at premium and the same applies to pipe. Operators are now finding that screen pipe is an absolute necessity and they are placing orders to be filled "as soon as possible."

The fact that the government has reserved and withdrawn all prospective oil lands in this part of the state caused much uneasiness among the big operators, for there came an immediate scarcity of possible extension. Patented land now stands at high premium and wherever it may be found it is undergoing investigation as regards its oil possibilities. Geologists are now ranging the country many miles from the proven centers, and especial attention is being given to all patented property lying on the line of the general tendency of the oil belt, from Coalinga on the north to Los Angeles on the south. It is reported that the Standard, Union and Associated all have scouts in the field on the lookout for new possibilities.

The Southern Pacific in combination with the Santa Fe have made their preliminary surveys into districts where there is a possibility of strikes and as soon as oil is discovered and districts proven the track will go down.

Taken as a whole the situation in the oil districts of California is good and rapidly improving. Many new operators are arriving and some new companies that have been operating in other fields have men looking for land in wildcat territory. Labor is in demand and all who apply for work get it at once.

In the McKittrick Field

There is much activity in the McKittrick field and operators are showing their belief in good production. Reports from the field show that many new wells are being drilled.

The Pacific Crude Oil Company, which recently acquired control of the property known as the Smith & Williams lease, situated in section 26, 29-21, on the North McKittrick front, is making preparations for ac-

tive work, the intention of the company being to drill five wells. Lumber for some of the rigs is already on the ground and it is expected that the first well will soon be spudded in. There is now in operation on the lease a well brought in by Messrs. Smith & Williams some years ago, and which, having been re-drilled not long ago, is producing a good quantity of heavy oil from a depth of 1240 feet. Mr. Williams, who has for years been well known in oil circles, was years ago the first superintendent of the Associated Oil Company's McKittrick division operations, and was subsequently associated with Mr. Smith in the direction of the Smith & Williams property, still later becoming proprietor of the Pacific Iron Works in McKittrick, from the management of which he retired one year ago.

The Standard Oil Company, which several months ago obtained a lease on property of the North McKittrick front has drilled one well to a depth of 795 feet and is making satisfactory progress with the work. This well is located in the northwest quarter of section 6, seven miles in a northwesterly direction from McKittrick, and it is the purpose of the company to make this a test hole. The Standard contemplates the drilling of another well not far from the first one, work to begin shortly. Other companies which operated in the vicinity of the property now controlled by the Standard, within the past two or three years, struck heavy oil in some instances, but these operations, conducted on a rather small scale, were discontinued owing to the depression of the oil trade and other reasons. With development conducted in more extensive manner and with the price of petroleum considerably increased, it is probable that the North McKittrick front will, judging from present indications, before a great while become widely known for its production and general activity.

Well No. 1 on the lease obtained some time ago by James O'Donnell of Los Angeles, and associates and located in section 3, 31-22, five miles southeast of McKittrick, is exciting much interest among oil men in the West Side region by its spectacular performances. About two weeks ago, a sudden rush of gas sent great quantities of sand, mud and rocks into the air far above the derrick, this demonstration continuing several hours. Two or three days later a second scene of the same nature witnessed, and since then there have been other outbursts, tons of sand and rocks being hurled hundreds of feet, demolishing the crown block of the rig and otherwise partly destroying the structure. The enormous pressure of gas ceased for a time, but it is likely to be renewed at any time. The drill is now down 900 feet. While the quantity of oil thrown out has not been large, it is said that the rocks cast from the depths give evidence of the presence of petroleum to such an extent as to inspire hope of the well being a good producer when put on the beam. Well No. 1 is situated near the property known as the old Belgian lease, which in years gone by yielded a good production of oil of heavy grade.

The Dominion Oil Company's well No. 1 which has just been redrilled, when put on the beam this week showed a gratifying increase in output, the rate being 70 barrels every 24 hours. Now that this work had been completed, the company will soon commence to drill a new well, No. 5, on its lease in section 15, 31-22, in the North Midway field.

The Berry and Keller Oil Company, in the north end of the McKittrick district has brought in a water well, drilled to a depth of 499 feet. The company was successful in the exploration, securing an ample supply of water.

Eastern Field Report for May

The report of oil operations in the fields covered by the Derrick's monthly figures, shows more activity in practically every division with a corresponding increase in the number of completions and of new work under way. The wells completed were 2,658 the largest number ever reported for a single month. The increase over April completions was 588. Nearly one-half this addition came from the Mid-Continent field and all divisions added a little to the number. New production was reported as 154,456, an increase of 59,518 barrels from the April figures. Kansas, Oklahoma and the Gulf Coast gave the largest addition to the new production, while Illinois and North Louisiana added something to the figures. There was no large decline in the new production credited to any division. Failures number 467 and gas wells were 160; the increase being 85 and 52 respectively. The showing as to failures was better than in most reports, as it showed only one for each six wells drilled.

New work at the close of the month amounted to 4,148 rigs and drilling wells, a gain over the previous report of 377. Each division with the exception of the Gulf Coast shows more operations, and while Oklahoma and Kansas give the largest increase, it is no more in proportion to the total amount under way than is found in other fields. The figures indicate a general activity extending into every locality of the Oil Regions, and

which promises a much larger number of completions during the summer months.

Subtracting the dry holes and gas wells from the total, leaves 2,031 productive oil wells, which is the largest number recorded for any month. The average new production per well is 76 barrels. In April the producing wells numbered 1,580, having an average of 60 barrels. In March the number was 1,383, with an average new production of 109 barrels to the well. In January the 1,208 producers averaged 136 barrels, and in February the figures were 1,166 and 124 barrels, respectively. The figures for May are remarkable in their increase of oil wells and the small number of failures reported. Many of the dry holes are due to the wildcat ventures of Texas and Kansas, while the old fields report very few.

The Pennsylvania fields were marked with an increase of activity during May, though the results were not satisfactory in proportion to the efforts expended. Although there was an increase of 135 in the number of wells completed the new production obtained was 237 barrels less than in April. The average of the wells was smaller, for the failures numbered only nine more than in the previous month, and there was a gain of 18 in the gas wells. The dry holes in May equaled 16 per cent, of the completions while in April they were 20 per cent. All districts with the exception of Butler

county, had more completions in May than in the previous month, but there was a decreased production in southwest Pennsylvania and southeastern Ohio. The other districts showed a small increase in the new production obtained. Southeastern Ohio reported the greater number of failures, nearly one-third of the total going into the dry hole list. Bradford and Allegany were fortunate in this respect, as out of 81 completions only two were failures, and the Middle Field made a good showing with only two dry holes out of 34 new wells. The close of May showed 202 more rigs up and wells drilling than did the end of April. The increase was made up of 42 rigs and 160 drilling wells. Each district with the exception of Butler country contributed to the greater amount of work under way.

In the Lima fields the same conditions hold good as in Pennsylvania. There was an increase of three in completions, with a decrease of 124 barrels in new production. Eight dry holes were reported, being one for each well completed. Work at the close of the month showed an increase of 17.

The Central West field was more quiet owing to the gas companies doing less work. Only 23 wells were completed of which one was an oil well with a production of 20 barrels, eight were dry and 14 were gas producers. The close of the month showed an increase of six in new work as compared with April.

Indiana had 15 more completions than in April, and although 40 per cent was dry, the new production shows an increase of 340 barrels. There is less work in the State as the close of the month showed a decrease of three in operations.

Kentucky is making large strides in increasing its output and in new work. Irvine and Scottsville are the two main fields, and they are being extended. Good wells have been found in both pools, and a 200-barrel producer was credited to Scottsville in May. The Irvine field makes a promise of an extension to the north though the belief that it will connect with the new development at Clay City does not appear to have good grounds, as the two oils differ in quality. Twenty-five more wells were completed in Kentucky in May than during April, and the increase in new production was 178 barrels. Fifteen dry holes marked the effort to find new pools or extend the old ones. The increase in new work at the close of the month amounted to six.

Illinois made a nice gain in all the items of field work. An increase of 76 in the number of wells completed made a gain of 1,622 barrels in the new production over April's figures. The dry holes and gas wells numbered 42, or practically a failure for each four wells drilled, the increase in failures being 17. Thirty-

three more rigs and wells drilling at the close of the month indicates a greater activity for June.

Kansas was an interesting field during May, the operations centering around Augusta and El Dorado. Many of the completions were in the shallow sands, but several deep sand wells make the section look promising for future production. The completions were 477, an increase of 126 over April. New production amounted to 14,595 barrels, a gain of 4,769 barrels. The 46 dry holes indicated the activity of the wildcat operator, at the same time the number was one less than in the previous report. An increase of 104 is reported in new work, the number of rigs and wells drilling being 551.

Oklahoma had 951 completions, with a new production of 62,920 barrels. The increase of 145 in completions resulted in only 14 more dry holes than in the previous report, the failures being one for each six wells, which is a good showing. Rigs and wells drilling in Oklahoma at the close of the month numbered 1,699, the largest ever known for the State, and an increase of 136 over the April figures.

The Texas Panhandle gave a small increase in wells completed and in new production, the total for the division being 60 and 4,639 barrels. The figures show 10 more completions and 356 barrels added to the output. The features of the month were the discovery of a gas field south of Mineral Wells and the development of some good shallow sand territory. At the close of the month the report shows a gain of five in new operations.

North Louisiana completed 58 wells, a gain of 19 and reported 5,471 barrels of new production, an increase of 2,431 barrels. Ten dry holes and nine gas wells figured in the completions. Since the Crichton field has failed to find gusher wells the output of this division has been gradually declining, although operations are increasing. At the close of the month there were 23 more rigs and wells drilling than in the previous report.

Humble is the main feature of the Gulf division, and in May provided most of the new wells and production. Outside of that pool there were no important developments. Of the 155 wells completed 57 were failures. Many of these were wildcats and not a few were found in trying to extend the producing territory of the Humble pool. The new production was 58,875 barrels, an increase of 28,782 barrels over the April report. The close of the month showed a decrease in new work of 21, and was the only division that indicated less activity.

There was but one change in the crude oil market during May, and that only affected the Wooster quotation, which was marked up from \$1.90 to \$2.00 on May 19. —Oil City Derrick.

INCREASED ITS CAPITAL STOCK

Advices from Oklahoma report the increase of the capital stock of the Roxanna Petroleum Company from \$10,000,000 to \$50,000,000. The Roxanna is the operating branch of the Dutch Shell interests in the Southwest. This increase is in line with the recent increase in the Shell Company of California, and is believed to foreshadow expansion of the Roxanna's interests on a large scale, especially in the refining and transportation branches of the business. The company is one of the most important producers in the midcontinent field, having an estimated daily output of 25,000 barrels in Cushing, Healdton and other fields.

NEW REFINERIES STARTED

Three new refineries have been started since January 1, 1916, by the Independent producers. The latest to start is the Atlas plant belonging to Charles V. Hall, and just recently leased to the Wilshire Oil Company. This plant had been shut down since the Union Oil Company surrendered its lease the first of the year, but it had been operated only off and on for a long time by the Union. The old Franklin refinery which has just been opened was closed for twelve years. The third refinery is an entirely new plant owned by the Vernon Oil Refining Company. In addition to these three the General Petroleum has made extensive enlargements at the Vernon plant.

The New York Market

An interesting article appears in the *Oil City Derrick*, from its New York correspondent, concerning the petroleum situation, which we reprint in full. The article says:

The long anticipated advance in values of illuminating oil was only partially realized and oil in bulk as well as barrelled cargo lots, are expected to go higher in the near future. Naphthas in cases only was advanced as was generally anticipated. Refiners announced a rise in prices of 25 points to 11½ cents a gallon on full cargoes of illuminating oil in cases and 25 points on naphthas all grades in cases only, bringing the price of gasoline up to 32.20 cents a gallon for auto 68 to 72 degrees, 3,000 case lots. The appreciation of value is partly due to the increased cost of containers and short supplies of naphthas on the spot coupled with the strong markets for crude oil and a steady increase in the demand, particularly for gasoline from domestic and export buyers. The volume of orders booked for the last week, covering refined oil and naphthas shows a perceptible decrease, due in a measure to exporters withholding orders, looking forward to a prospect further decline in ocean freights to the Far East. The shrinkage of orders was mostly confined to illuminating oil in cases and naphthas, while a slight gain in sales of gasoline is noted.

The price of spot gasoline to garages here closed unchanged but an advance in quotations is expected daily owing to the steady rapid strides in the consumption by local consumers. The price to garages is 24c and to consumers from 27 to 31 cents a gallon. Dealers are anxiously looking forward to the report of the Federal Trade Commission on the oil industry, which will be made public this week. It is the belief in some quarters that the publication of the report will influence a change in gasoline price, depending largely upon the gist of same. At some garages, according to reports, gasoline is doled out for as little as 26c, but occasionally the motorist finds he has paid for part water when he expected or seeks to benefit by this cheaper rate.

Some local oil interests see danger in the over-expansion of the oil trade, owing to the uncertainties as to conditions which will follow the conclusion of the war and a difference of opinion exists in trade circles as to whether exports will decrease then. Leading oil interests point out that in face of the opening of the European fields to international buying, American oil will be in active demand abroad for some time after the European war ends, as the fields have been closed to foreign markets during the war. It appears improbable that they will be able to resume exportations after the war on the same scale as in other years.

Chartering of oil carriers was rather slow, due in part to charterers holding back for lower rates. Fixtures reported during the week covered the Swedish bark *Embla* 2,100 barrels refined oil June loading at Philadelphia to a Scandinavian port at private terms, and the Russian bark *Hiram* 1,800 barrels refined oil on same terms. For the week ended today the total charters for petroleum, involving crude and refined oils also naphthas in bulk and in packages reduced to crude equivalent, amounted to 171,627 barrels, showing a fall-

ing off of 122,608 barrels compared with the total for the preceding week. The total charters from January 1 to June 1, 1916, aggregated 5,308,250 barrels, with a monthly average of 1,061,650 barrels, showing a gain of 238,329 barrels and 47,666 barrels compared with the corresponding period of 1915. The total charters for the month of May, 1916, amounted to 1,154,841 barrels, showing a gain of 208,914 barrels compared with May, 1915, and a decrease of 200,587 barrels compared with April, 1916.

Clearances of petroleum at the port of New York from January 1 to June 2, 1916, as outlined by tabulated figures herewith, aggregated 252,838,640 gallons, showing a gain of 1,628,891 gallons compared with the same time of last year. Clearances at Philadelphia for the same period aggregated about 61,800,000 gallons, showing a shrinkage of some 1,000,000 gallons compared with the corresponding time of 1915.

The weekly review of petroleum and products as outlined herewith, covering transactions is based on terms f. o. b. vessels, New York, covering 200 to 299-case lots, unless otherwise specified. In order to arrive at f. o. b. vessel price on case oil in regular export cases, containing two five-gallon, low screw cans, in New York harbor, the following regular lighterage charges must be added to sales prices mentioned on standard white oil (water white oil sells at 1 cent a gallon above the price of standard white oil). Lighterage charges are as follows: Ten to 99 cases, 2 cents; 100 to 199 cases, 1.50 cents; 200 to 299 cases, .90 cents; 400 to 499 cases, .50 cents; 500 to 699 cases, .40 cents; 700 to 999 cases, .35 cents; 1,000 to 2,999 cases, .30 cents; 3,000 to 9,999 cases, .20 cents a gallon, and 10,000 cases and above, 1½¢ a case.

Of illuminating oil in bulk over 104,000 barrels were traded in at 5¼ cents, while of full cargoes of barrelled some 10,000 barrels changed hands at 8.90 cents a gallon. Sales of illuminating in cases involved over 160,000 cases. No full cargo lots are included in the latter amount, and the price was unchanged up to June 1, refiners advanced quotations 11½ cents a gallon, while the total of 160,000 cases made up of 3,000 to 9,999-case lots were looked mostly at 11.45 cents a gallon, closing at 11.70 cents a gallon. Orders for naphthas involved some 24,000 cases at 36½ cents, closing at 36¾ cents a gallon for 200-299 case lots and at 36.40 cents a gallon for 3,000 case lots.

Gasoline sales comprised over 24,000 cases, mostly at 32½ cents for 200 to 299 case lots, and at 32.05 cents a gallon for 3,000 case lots of auto 68 to 72 degrees, while stove sold at 29c for 200 to 299 case lots and 28.55 cents a gallon for 3,000 case lots. On June 1st prices were aided ¼ cent a gallon respectively.

Lubricating sales comprised over 50,000 barrels at unchanged values as to brand and quantity order. No sales of crude oil appeared on the surface of the market, while of fuel and gas oil some 38,000 barrels (mostly in bulk) changed hands.

The International and Great Northern Railway of Texas has placed an order for 1,200,000 barrels of fuel oil with the Texas Company. It is reported that the price was quite an advance over old prices.

Petroleum Production of the World

On all sides we hear expressed fears of insufficient supply of petroleum to meet the ever increasing demands. With enormous call for gasoline and many other by-products, already there has come the warning from the government officials against the "waste" of using crude oil for fuel. Naval officials demand more fuel oil because they say the big battleships cannot maintain the desired speed with coal, nor can they have the steaming radius. Under these circumstances it is interesting to note the compilation of the world's production of petroleum sent out by the Foreign Trade Department of the City National Bank of New York. This compilation, which takes in the production of petroleum from the earliest date of the industry, shows that the United States produced in 1915, 66.3 per cent of the world's output of crude petroleum against 64 per cent in 1910; 43 per cent in 1900; 60 per cent in 1890 and 88 per cent in 1880.

The world production of petroleum in 1915 is stated at 440 million barrels of 42 gallons each against 328 million barrels in 1910; 149 millions in 1900; 77 millions in 1890; 30 millions in 1880; 6 millions in 1870 and about a half million barrels in 1860.

Of this world production, that of the United States was in 1915 292 million barrels against 210 millions in 1910; 64 millions in 1900; 46 millions in 1890; 26 millions in 1880; 5 millions in 1870 and a half million in 1860, when we produced practically all the petroleum output of the world.

Our total production of petroleum in 1915 was larger than in any earlier year, exceeding that of 1914 by 26 million barrels. The world production in 1915 was also larger than in any earlier year exceeding that of 1914 by 39 million barrels.

The United States has been the world's largest producer of petroleum continuously since the development of petroleum production, except in the period 1898-1901, in which period Russian production slightly exceeded that of the United States, the product of the United States in 1898 being 55 million barrels, Russian 62 mil-

mions; in 1899 United States 57 millions, Russia 66 millions; in 1900 United States 64 millions, Russia 76 millions, and in 1901 United States 69 millions, Russia 85 millions. Beginning with 1902, however, the product of the United States exceeded that of Russia by 8 million barrels, and the excess of our production over that of Russia, our chief competitor in the world's oil field, has rapidly increased so that in 1914 our own output was nearly four times as much as that of Russia, the 1914 figures of production being for the United States, 266 million barrels against 67 millions production by Russia. Russia's largest production in any year was in 1901, 85 million barrels, falling to 67 millions in 1914, while in the case of the United States the product of 1901 was 69 million barrels, having advanced meantime to 266 million barrels in 1914 and 292 millions in 1915.

Our share of the world's petroleum production was in 1860 98 p. c.; in 1870, 91; in 1880, 88; in 1890, 60; in 1910, 64; and in 1915, 66 p. c., these figures being in very round terms.

The world's principal mineral oil producers and their output in 1914 were, United States with a product of 266 million barrels, Russia 66 millions, Mexico 21 million, Roumania 13 millions, Dutch East Indies 13 millions, and India 8 millions.

The principal production of the United States by states was in 1914: California 100 million barrels; Oklahoma, 74 millions; Illinois, 22 millions; Texas 20 millions; Louisiana 14 millions; West Virginia, 10 millions; Ohio 9 millions and Pennsylvania 8 millions, the figures being in very round terms.

The United States, despite the fact that she is by far the world's largest producer of petroleum, is becoming of late a considerable importer, the quantity of crude petroleum imported in 1914 being about 18 million barrels and in the fiscal year which ends with next month will probably amount to about 20 million barrels, a very large proportion of this coming from Mexico and seeking a market in the United States because of her superior facilities for refining the crude product.

Recovering Oil from Waste

Consul Augustus E. Ingram, of Bradford, England, reports to the State Department that the following article recently appeared in a publication in that city:

"In a large works or where there is much machinery running, the quantity of oil that is absorbed by waste, rags and wipers in the course of a year is fairly considerable, and with oil at war prices any method of recovering even a portion of it is worth considering. An apparatus has been in use by the Lancashire & Yorkshire Railway Co., among others, by which it is claimed that 90 per cent of the oil and grease held in the pores and on the surfaces of waste rags and wipers used in keeping machinery clean is recovered. The arrangement is a skillful adaptation of the steam turbine and the centrifugal or hydro-extractor, as it is sometimes called. The centrifugal consists of an outer containing, fixed cylinder, and an inner perforated cylinder, which is

made to revolve at high speed. The material to be dried is placed in the perforated cylinder, and when the latter is revolved the material to be dried is carried by centrifugal force against the perforated wall of the cylinder, any fluid which it contains being carried through the perforations into the outer containing cylinder, from which it is drawn off. In the apparatus under consideration the oily rags, etc., are placed in the revolving cylinder, which is driven by a small steam turbine, the exhaust steam from which is led into the revolving cylinder of the centrifugal, where it melts the grease, loosens the oil, and helps them to free themselves from the cloths, etc. The waste wipers are also recovered, either directly after treatment in the centrifugal or where the cloths are dirty as well as oily, after subsequent washing by the ordinary laundry machinery. Where clean oil is used only, the waste is ready for service directly its oil has been squeezed out."

California Derrick

The Oil Authority of the Pacific Coast

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

Publicity helps legitimate business and protects innocent buyers of stock. A good company never fears publicity.

* * * * *

It is about time for oil men to get over being pessimistic. With oil going up all the time, why not have a smile instead of a frown?

* * * * *

Do not laugh at the man who has nerve enough to go into an unproved field to drill for oil. Remember that all California oil fields were unproven once.

* * * * *

Look out for developments in new fields in California. Prospectors are working in districts which the geologists have condemned.

* * * * *

With all this talk about new processes for extracting gasoline, is it not about time somebody extracted the fluid?

* * * * *

Seven and a half million dollars dividends in six months is a pretty good record for California oil companies.

* * * * *

One hundred and seventy-five riveters struck at the Shell plant at Martinez and now many other hundreds are idle. It's dollars to doughnuts that those thrown out of work blame the company more than the strikers for their misfortune.

* * * * *

One of the new companies dealing in oil in California has established a rule to send a letter every month to every stockholder, telling them just what has been done during the past four weeks. It keeps the stockholders interest and means ready response when anything is desired of them.

AFTER THE WAR, WHAT?

One of those persistent question that will not down, heard more frequently among oil men than elsewhere, is "what will happen to our business after the war is over?" It is a question that many shrewd business men are asking all over the world, but as it relates to the petroleum industry there should have been little difficulty in finding an answer.

There has been much stimulation of the American petroleum industry owing to increased demand for our products, but there has also been a large market cut off from us. The demand for gasoline has been so excessive as to bring about an enormous increase in price, but it is pointed out that much of this increased demand came directly from our own country because increased automobile and gas engine use necessitated it.

That there has been lack of shipments of crude fuel oil to points across the Atlantic is well recognized, this condition being due to the fear of submarines and the difficulty in getting through the mine fields which surround European ports.

Increased demand for crude oil began, it will be remembered, before that fateful August day nearly two years ago when all Europe went to war. It was felt by oil men everywhere, and there is not a question in the mind of any student of the economics of the situation, that had there been no war the demand would have been as greatly increased as now, and it is extremely possible that it would have been greater.

When the war is over there will be opened up at once a vast market that has been absolutely exhausted of its petroleum and all petroleum products. All of Germany and Austria-Hungary will demand enormous amounts to supply extreme want. Greece and Turkey will also be in the market for enormous shipments, and as it will be many months before the Roumanian or the Russian wells can again be put in operation, all this supply must be satisfied by America.

Taking all things into consideration, there can be no doubt that the demand for petroleum will be greater for two years after the war than it has been during the war. In this connection it is well to remember that production is steadily decreasing and that with the withdrawal of land and the constantly enlarging Naval Reserves, there will be a question of our ability of meet the demand.

Petroleum is advancing in price all the time and while it is difficult to get an oil man to say that times are better, there is no one who will say that it is not better. Prices have advanced to the extent that any man who has a producing well is now past the worry that held him down for several years past. Oil land is advancing in value and when the war ceases every available acre of oil land will be opened, while thousands of acres of land that has not yet been proven will be developed.

California has not been prospected for oil to anything near its possibilities. Thousands of square miles of territory that have been condemned by geologists as absolutely without oil will show that they are as much mistaken as they were when they condemned the land on which were developed the great Lakeview gushers and the Maricopa field.

After the war petroleum will be in increased demand and unless all signs fail there will be increased price for crude until the dollar mark has been passed in California. Mexico cannot be counted on to help out to any

great extent, for, while her fields are enormous, there is a political situation there that will do much to stop production.

Reports from Detroit and other automobile manufacturing centers, say that the number of cars produced is increasing. Ford has doubled his plant and is producing 2,000 cars a day where he produced but 1,000 a day last year. These cars alone will keep the demand for petroleum beyond the production and this will increase when the war stops.

IRON AND STEEL SCARCE

Scarcity of iron and steel for oil well supplies is becoming a serious menace to the progress of the industry. According to the men interested in the manufacture of these supplies, it is possible that there will be a curtailment of operation and partial suspension of work, not only in the wildcat districts but in the regular fields. It has become so serious that manufacturers now have men scouting the country for second-hand iron and steel that may be worked over.

KEEP STOCKHOLDERS INFORMED

The Derrick is in receipt of numerous letters requesting information regarding oil companies. The most frequent complaint is that the stockholder is unable to get information from the officers of the company. One of the greatest causes for dissatisfaction of stockholders is the presumption of the officials of companies that they are the "entire works." Men who buy stock should be kept informed of what is being done, and in this way the officials will retain confidence, which many companies need.

UNCERTAINTY CRIPPLING CALIFORNIA OIL INDUSTRY

The action of interested parties toward the great oil problem now confronting the federal government, the Taft withdrawals, is a menace to the oil industry of California from which it will take many months to recover.

We were approached last week with the query "What is the matter with the oil business? Investors are chary; with oil at 5 cents there is money in the oil business; What is the matter?"

As long as the federal government holds the hand of uncertainty over the oil lands in question it is bound to cast a cloud over the entire oil producing radius of the state. We submit that the government would better deny the rights of interested parties and lease the lands in question to them, or withdraw entirely and repudiate the Taft withdrawal.

In other words it has come to the point where it is time for the federal government to either make hay or lay down its tools and let energy and progress take up the task which it is now blocking by indecision.

NAVAL OFFICERS WORRIED

It has been announced at Washington that a special board of naval officers has been appointed to study the question of the oil resources of the United States, with particular attention to the present and future supply available for naval fuel.

It is the opinion of Rear Admiral Griffin, acting secretary of the Navy, that if the navy abandon oil as fuel, the five 35-knot battle cruisers proposed by the House naval committee could not be properly constructed. He declared that a speed of 35 knots with coal as fuel

would require the consumption of about 400 tons an hour, and a large force of firemen, and could not be attained for more than four hours. With oil a greater protection would be given the vessel, particularly from torpedo attack, and the ship's complement of men would be reduced by the elimination of stokers.

This is not the first inkling had of the worry of naval officials regarding the lack of sufficient fuel oil. In the investigations of the House committee regarding the withdrawal order it was shown that the Navy Department feared that if the withdrawal order was rescinded it would mean the abandonment of fuel oil for naval vessels. This was one of the strongest arguments put forward by the navy.

All this investigation of oil conditions is of great interest to California oil producers, for with the prevailing price of crude at the well it looks as if there might be some relief with a wider demand. Crude oil in California is especially adapted for fuel purposes, and while Professor Manning is declaiming against its use as fuel, it certainly seems as if the California producer should receive better prices. In the Mid-Continent field and the Eastern fields crude prices have gone far above the warrant of conditions that are maintained in California. If there bids fair to be a shortage of fuel oil for the navy it ought to mean better demand and better prices for California.

THE RIGHT MAN FOR PRESIDENT

The Derrick has been asked by one of its readers to give its opinion regarding the best choice for President of the United States, according to the three candidates selected by the Republicans and Democrats.

We immediately selected three of our unbiased friends and propounded the question to them. There was a singular unanimity of opinion among the three. All were emphatic and spoke so strongly that we can but agree with them.

The first friend looked with surprise when the question was asked. His reply was ready.

"Hughes, of course."

The next friend was equally emphatic and ready.

"There can be no question. Wilson is the only man."

The next answer settled it.

"Roosevelt. No one else can be considered."

There you are. That is just how we feel about it. There are three of us interested in the fortune of the *Derrick*, and not one of us is a politician, consequently we give you the decision of three friends who know exactly what the country wants.

HEAVY EASTERN SHIPMENTS

Heavy purchases of California oil have been made by the Chesebrough Manufacturing Company of New York, and shipments have been going forward at the rate of thirty carloads every twenty-four hours. This company is the sole manufacturer of vaseline and its various preparations. There has been a recent payment of a 200 per cent stock dividend by the company.

GOOD PRICES FOR OLD MATERIAL

The Associated Oil Company is realizing on a lot of old junk that has become valuable owing to the scarcity of material and metal. It has just sold its accumulation of old pipe, fittings, pumps and boilers for \$28,000. This accumulation has been going on for the past two years in the Midway and Kern fields.

The Government Oil Land Situation

The following from the Standard Oil Bulletin is of much interest and merits the careful reading of any one interested in the oil situation in California.

The equities of the claimants of government oil lands in California have heretofore been referred to in these columns.

In an exhaustive decision recently rendered by United States District Judge R. S. Bean, involving five cases brought by the Government, the good faith of the defendant operators, as well as the necessity for their relief, is sharply pointed out. Approximately twenty-five actions for the possession of lands developed by operators have been instituted by the government, and many more are understood to be in process of preparation. These lands were included in the withdrawal order made by President Taft on Sept. 27, 1909, without notice or warning to the oil men. Subsequently, by act of Congress of June, 25, 1910, it was provided that those who were diligently at work on September 27, 1909, and who prosecuted their work to discovery of oil, should not be affected by the withdrawal. The validity of the withdrawal order was generally denied, as is pointed out by Judge Bean. The legal status of these lands, ever since the withdrawal, has been involved in doubt, which was only partially resolved last year by the decision of the Supreme Court of the United States finally sustaining the legality of the withdrawal order. As the first judicial expression on the equities and merits of the Government "and operator" position, Judge Bean's decision is peculiarly important. After holding that the operators were not entitled to trial by jury, Judge Bean construes the law with reference to the diligence required from and after the presidential withdrawal to entitle the claimants to the lands. Answering the contention of the defendants that they proceeded with the work of development so far as it was possible to do so, Judge Bean says:

"The lands in controversy are situated in an arid section of the state and until late in 1909 or early 1910 it was difficult if not impracticable to obtain water in sufficient quantities for successful drilling, but I do not think that fact brings the cases within the terms of the law."

"There is no intention manifest in the statute as far as I can see, to protect or confer any rights on those who had merely made a filing prior to the withdrawal order but who were unable to engage in work looking to discovery, but only those who were at the date of the order bona fide occupants or claimants of the lands withdrawn and *actually engaged in the diligent prosecution of such work*. None of the defendants comes within this category."

Having pointed out that under the act of June 25, 1910, the defendants cannot maintain their claims of the cause they failed to comply with requirements of the law, even though they might be impossible to fulfill, Judge Bean discusses the equities of the situation. He calls attention to the position of the Government:

"For the Government it is contended that the operating companies must be treated as wilful trespassers and required to account to it for all oil extracted at its market value, with no deduction whatever for money expended for sinking wells, or otherwise developing and improving the properties, or for the cost and expenses of extracting and marketing the oil. And that in addition

it is entitled to take and appropriate all wells, casings, derricks, machinery, tools, and appliances and other property put on the lands by the defendants. This view does not favorably address itself to a court of equity."

Of the good faith of the defendants, Judge Bean says:

"At the time of the withdrawal order, or soon thereafter, the area in the immediate vicinity of the properties in controversy was being rapidly developed, as oil producing property. It was therefore necessary for the claimants, if they were to protect their rights, if they had any, to take immediate steps to develop the property claimed by them, in order to prevent its occupation by others, or the oil under it from being drawn off and exhausted by wells on adjoining land. They thereupon, acting as prudent and careful men, consulted counsel learned in the law and were advised that since Congress is vested by the Constitution with power to dispose of the public land (Art. IV, Sec. 3) and since it had declared by statute that valuable mineral deposits, including petroleum, in land belonging to the United States are free and open to exploration and purchase, and the land in which they are situated to occupation and purchase (R. S. 2319-2329; 29 Stat. 526), the Executive was without authority to suspend the acts of Congress, or withdraw the lands from the operative effect thereof, and therefore the withdrawal order was invalid; and if they proceeded to a discovery of oil, they would acquire a right to the property and its contents. Acting on this advice, honesty and in good faith, without any intention of wronging the government they developed the properties, expending large sums of money in so doing, the aggregate in the six cases in question amounting to more than a million dollars. By their labor and expenditures they have demonstrated the mineral character of the lands and increased their market value from two or three dollars an acre to two thousand or twenty-five hundred dollars an acre. What was before a barren, arid waste is now demonstrated valuable mining properties with numerous oil producing wells thereon, and that through the efforts and expenditures of the defendants. The government agents and officers charged with the disposition of the public lands, knew of the possession and development of the properties, and made no objection thereto, and while this does not estop the government from now asserting title or right to the possession, it should not be overlooked by a court of equity in considering the character of the defendant's possession, or the damages which they should be required to pay. It is true the defendants, as laymen, are presumed to have known the law, and that the withdrawal order was valid, although many of the leading members of the California bar and five of the ten Federal Judges called upon to consider the question judicially, apparently did not, and even the Executive himself was in doubt as to his authority to make the order. The maxim that every man knows the law applies to defendants, but there is a marked difference between those who recklessly or with actual intent to rob others trespass upon their property, and those who, acting on the advice of counsel, trespass by mistake with no evil purpose, but with an honest belief that they have a right to do so. One who acts in good faith upon the erroneous

ous advice of reputable counsel upon questions of legal right concerning which a layman could hardly have actual knowledge, is not chargeable with bad faith, or with a wilful intent to commit a wrongful act because his counsel was mistaken in his view of the law. The defendants were not wilful looters of the public domain nor reckless trespassers thereon. They acted on the advice of reputable counsel, expended their money and labor in good faith, relying upon a law of the United States and in the honest belief that they were within their rights. They were of course trespassers because they were mistaken, but they should not be mulcted in damages beyond actual loss to the government and in my opinion this should be measured by the value of the oil taken and the damages, if any, which they have caused or permitted to the properties or their oil contents by the infiltration of water or otherwise."

It may appropriately be repeated, as has also recently been developed in Congress, that the Standard Oil Company's interest in the land is small. In none of the cases just decided does it make any claim to the land involved. In fact, as to the Standard Oil Company, which was a defendant in these cases, the actions are dismissed, to be renewed before court sitting with a jury, if the Government be so advised. Speaking of the Standard Oil Company and the other companies designated by Judge Bean as marketing companies, he says:

"As to them, the suits are nothing in effect but actions for conversion of property alleged to have been wrongfully taken from the lands by the operating companies. The marketing companies make no claim to the properties, have never trespassed, nor committed waste therein, nor advised or encouraged others to do so. Their only offending consisted in purchasing the oil in the usual course of business, as they did from any other operators in the same field. They are no doubt amply able to respond to any judgment the Government may recover against them, and for the wrong, if any, done by them the plaintiff has a plain, adequate and complete remedy at law, and they cannot be denied their constitutional right to trial by jury by joining them with defendant in a suit to prevent waste brought against the operating companies."

In a recent number the *Bulletin* expressed substantially these views as to the honest intent of the oil producers on these lands. The facts found by Judge Bean should suffice to answer every contention in opposition to the pending appeal of the oil men to Congress for relief from the intolerable situation that confronts them.

MEXICAN PETROLEUM SITUATION

It is reported that the Mexican Petroleum Company recently closed a deal with the Standard Oil Company to sell the latter company 6,000,000 barrels of oil to be delivered at the well, the Standard sending its own boats for it. The Mexican Petroleum has completed boring 24 four new wells close to the famous gusher opened not long ago in the Tampico district. The big gusher developed a capacity of 261,000 barrels daily, and as the new wells show now a gas pressure of 1,600 pounds to the square inch the indications are that there will be another gusher to be reckoned with.

The new well is deeper than the one now operating and the company believes that it will tap an entirely new pool. The actual shooting of the well is being delayed for the present owing to the unsettled conditions. Seepage from it is running from 300 to 400 barrels a day.

The conditions around Tampico and other Mexican oil districts is not promising of good results soon. There has been considerable disquiet over the threatened friction between the Mexican and United States Governments. It is openly announced that in the event of a war between the two countries all of the oil wells of the Tampico district will be blown up to prevent the Americans from taking advantage of them. No new developments, therefore, can be looked for in this district until conditions have become more settled.

While the Mexican Petroleum Company is operating, ostensibly, under the full consent of the Carranza government, there is no doubt but that it would be compelled to close down if there should be serious trouble between the two nations. Other Mexican oil fields are in similar condition of unrest, and it is extremely probable that this supply will soon be shut off, making increased demand for United States petroleum.

Reports coming out of Tampico vary according to the feeling and inclination of those who tell their stories. Some recent arrivals from that district say that armed guards surround all properties owing to the threats of the Mexicans, while others say that there is not the slightest indication of trouble. One of the recent arrivals from Tampico is of the opinion that it will be but a short time until all wells are closed down in that district. A letter from W. D. Hassenfuss, an old California oil operator, has been received at Taft in which he says:

"In regard to the climate, it gets very hot, but by dressing in linens and taking care of yourself, you can get along very well and not suffer any more than you do in the desert climate of California. Tampico is a very nice city and has all the conveniences of any large town. There are about 2000 Americans here and about 1500 in the fields. By this you can see that conditions are not so bad with us. There are times they don't look the best, but all rumored troubles have blown over so far. The natives are all peaceable and don't appear to be looking for trouble. The worst trouble that occurs is from bandits who once in a while raid some of the camps. All they take is what they want to eat and then move on. None of the boys so far have in any way been molested."

"The American school here, which was closed some time ago, is to be reopened again soon, according to report. There are many American children here, most of whom go to private schools or are taught at home. Though this, as well as other conditions have a bright outlook any man coming here should leave his family in the United States until they look over the country and become thoroughly satisfied. If trouble did start here every one could get out all right, as there is always many tank steamers and other boats in the harbor.

"It is surprising the amount of work being done here under the conditions and I think if there was no trouble in Mexico I would be safe in saying that operations would more than double.

"As to the future of this field, I think that it has the best prospect I ever saw. I believe it is going to be the greatest field the world ever knew. I thought I had seen some large wells in my time, but this field has got them all beat. I saw a well opened up in Panuco which flowed at the rate of 100,000 barrels a day. It is not a question of oil here with any of the companies operating—it is instead a question of conditions."

California Concentrates

The Associated Oil Company has declared its regular quarterly dividend of \$1 a share.

No. 26 well of the Sunset-Monarch oil company has reached a depth of 550 feet.

The C. C. M. C. Company has given up its lease on section 24, 32-23, near Taft, to J. W. Jameson.

The August Oil Company has declared a dividend of 1 cent a share on its stock. It is operating in the Midway field.

The Oakridge Oil Company has started another test well in the Ventura field near the Montebello property at Santa Paula.

The General Oil and Gas Company, of Reno, Nevada, has been incorporated for \$50,000 by David F. Yost, D. P. Downs and Joseph E. Peters.

A new derrick is to be erected on the Snook lease on section 12, 11-24, near Maricopa, and a new well will be drilled.

Operations have begun on the Haulhuth ranch, near Vallejo, Cal., and it is expected that oil will be struck at about 2,000 feet.

The Associated Oil Company has begun building its rig on section 29, 28-27, and will spud the hole in about three weeks. This is on Lerdo Mesa.

The usual monthly dividend of \$1 a share has been declared by the Amalgamated and West Coast preferred.

A new derrick is being built on the Petrolia Oil Company's lease on section 12, 11-24, and a new well will be started as soon as drillers complete No. 4.

The Petrolia Oil Company's No. 3 well, on section 12, 11-24, Maricopa, is producing at the rate of 100 barrels a day.

The new rig on the Topaz lease, section 12, 11-24, Maricopa, has been completed. It replaces the rig that was blown down on No. 2 well of the company.

Drilling on No. 8 well, of the Good Roads Company, is progressing rapidly, and the 400 foot depth has been reached. This property is located on the heavy oil belt at Maricopa.

The Carrick Oil Company, of Bakersfield, has been incorporated for \$100,000 by H. H. Hart, J. H. Dearin, M. J. Lindsay, J. F. Humbert and James H. Lewis, all of San Francisco.

The Fangha Ballach Oil Company, of Phoenix, Ariz., has incorporated for \$100,000, by M. A. Spellacy, J. H. DeSousa, W. G. Power, Raymond Ford, S. Spellacy and John Spellacy.

TROUBLE AT SHELL PLANT

The strike epidemic which has been growing in intensity in California for some time past caused the closing down indefinitely of the big Shell plant at Martinez. The direct cause of the close down was a walkout of the riveters, and the company says it will remain closed for an indefinite time.

Through Lacy Brothers the company has erected a number of huge tanks and refineries at Martinez, and several hundred riveters have been at work connecting various groups of buildings with pipes. The Lacy Brothers is an open shop company, and this, primarily, is the cause of trouble. As rapidly as one group was connected up a certain number of men were laid off, until there remained but 175 when the strike was called. It is claimed by the union that only union men were discharged but this is denied by the contractors. When the company made denial the walking delegate of the riveters demanded increased wages and shorter hours, together with closed shop. The demand, by agreement, was taken under advisement, but before the time of consideration expired the strike was called.

The Shell Company has conducted its operations on the open shop basis, and has achieved the reputation of being one of the fairest of employers of labor. Immense sums of money have been invested by the company in Contra Costa county and the closing down of the works will throw a large number of people out of work and bring hardship to many families.

It is significant that this strike was called immediately after the state had awarded contracts to the Shell Company to furnish crude fuel oil to three of the big state institutions. This contract was virtually a renewal of

the old contracts. The Shell underbid the Union Oil Company 2 cents a barrel. This contract indicates the improvement in the oil business, as last year the price paid was 80 cents a barrel and this year it is between 98 cents and \$1.50 a barrel.

GENERAL PETROLEUM DRILLING

Well No. 37, of the General Petroleum Company, on section 6, 20-15, Coalinga District, has been cemented at 1147 feet with heavy 10-inch casing. Well No. 36 was cemented at 1148 feet. The cable tools are now down 1380 feet. Well No. 35 is being finished up with rotary and the hole will be spudded in this week. The derrick and rig for No. 34 is now completed and the rigging for rotary is in progress. There are fourteen producing wells now on this property.

NEW VENTURA DISTRICT

The completion of a well in the vicinity of Santa Paula, Ventura county, by the Montebello Oil Company, has opened up a new district, according to advices from the southern part of the state. The new well, of which little was heard while drilling was in progress, is about ten miles distant from any other producer in the Santa Paula region. It is understood that the well is producing about 125 barrels of 26 degrees gravity oil per day.

Four other wells are to be started with a short distance of the new producer. The Oakridge Company, a subsidiary of the Montebello, has erected two rigs, one of which is on the same section, 13, 3-21, and the other is on an adjoining section. James O'Donnell and associates have purchased forty acres on section 13 and are preparing to start their first well, while the United Oil Company is about to start a new one on section 17.

JAPAN IMPORTS MUCH OIL

The following is taken from the Petroleum Times, published at Marunouchi, Tokyo:

Increased 46,000 cases in quantity.

Decreased Y80,000 in value.

Total import in 1915 of Petroleum and its products in Japan is 40,202,235 gallons, valued at Y9,611,383. Comparing this with the same in 1914, which was 39,733,184 gallons valued at Y9,691,890, there is an increase of 469,051 in quantity, but decrease of Y89,467. This is chiefly due to a very large increase in the import of crude oil; the import of gasoline fell off 708,867 gallons in quantity and Y262,326 in value and of kerosene 1,092,580 gallons in quantity and \$193,652; in the case of crude oil there was an increase of 2,270,489 gallons valued at Y375,511.

The detailed statement with the same for 1914 is as follows:

Kinds	1915	1914
Crude, gal	4,765,592	2,495,094
Crude, yen	714,839	339,328
Gas., gal.	1,077,115	1,785,982
Gas, yen	432,869	695,195
Ker., (case) gal.	16,399,766	13,673,301
Ker. (case) yen	4,372,296	3,605,379
Ker. (bulk) gal.	17,959,762	21,778,807
Ker. (bulk) yen	4,091,379	5,051,948
Total gal.	40,202,235	39,733,184
Total yen	9,611,383	9,691,850

OIL FIELD NEWS

April shipments, averaging 292,970 barrels daily, show an increase of approximately 16,000 barrels per day over figures for the preceding month. One contributing factor to this increase was the replenishment of consumers' storage. The largest shipment figure heretofore recorded was that for April, 1914, of 292,108 barrels per day, says the Standard Oil Bulletin.

Production averaged 246,097 barrels daily as compared with 242,656 barrels daily for March.

Shut-in production is estimated at 8,000 barrels daily.

Forty wells were completed during the month, with an initial daily production of 5,555 barrels.

The ninety-one new rigs erected represent a substantial increase in work initiated during the month.

Summary of developments and production for all California fields for April is as follows:

Kern River	12	18	8	1,759	23,315
McKittrick	6	6	2	280	9,119
Lost Hills - Belridge	25	25	10	269	12,531
Midway - Sunset	35	67	17	1,530	106,604
Coalinga	5	19	.	812	36,279
Lompoc and Santa Maria	1	9	1	239	11,920
Ventura County and Newhall	2	22	1	441	3,536
Los Angeles and Salt Lake .....	.	1	.	693	4,714
Whittier - Fullerton	5	67	3	627	37,849
Summerland .....	.	.	.	112	155
Watsonville .....	.	.	.	5	75
Total	91	234	40	7,767	246,097

PACIFIC CRUDE OIL COMPANY

The Pacific Crude Oil Co. is abandoning its No. 4 well on section 32, 31-23, with plans made to plug the hole and pull the casing. This property, though still a good one, other than with the No. 4, was formerly one of the best 40 acres in all the Midway. Its No. 1 well was the talk of the oil world because of its tremendous flow, which later caught fire. The No. 2 and 3 wells came in with good production, the No. 2 flowing over the derrick for a short period. The heavy gas pressure has subsided to a great degree, with the wells now giving but a general production.

Packard and other prominent automobile engineers favor motor oils from Western crude.

Exposition juries at San Francisco and San Diego gave highest competitive awards to Zerolene—an oil from Western crude. Zerolene is the best oil for

your motor because *scientifically* refined from selected California crude—*asphalt-base*. Government experts tell us that oils correctly refined from asphalt-base crude "distill without decomposition" [do not break up and lose their lubricating value under cylinder heat] and are "much better adapted to motor cylinders, as far as their carbon-forming proclivities are concerned, than are paraffine-base Pennsylvania oils." When you empty the crankcase refill with Zerolene. Dealers everywhere and at service stations and agencies of the Standard Oil Company.

ZEROLENE

the Standard Oil for Motor Cars

Mexico May Solve Oil Shortage

It is becoming more and more apparent that Mexico's oil fields still play an important part in remedying the oil shortage which is becoming greater with each passing month. In discussing the matter in New York, recently, Richard Levering, considered one of the well posted men of the country, stated that the initial production of the five largest wells drilled in Mexico is reliably reported to have been as follows: Cerro Azul No. 4, 262,000 barrels daily; Potrero del Llano No. 4, 60,000 barrels daily; Juan Cassiano No. 7, 35,000 barrels daily; two others in the same district, 342,000. These five wells have a combined initial production of more than 700,000 barrels a day, or more than the combined output of all of the wells in the United States.

Mr. Levering is careful to state that it is not his opinion that these big Mexican wells will continue to have this tremendous output, but he pointed out the remarkable fact that these five wells had a production greater than the combined production of 100,000 wells in the United States. Mr. Levering adds:

"The potential of continuous production of Mexico today is estimated variously between 300,000 and 500,000 barrels. There are, however, not sufficient pipe lines constructed to carry over 20 p.c. of this amount. With the completion of the additional lines intended and the large fleet of steamers under construction, this supply of oil, already developed, will be available for consumption in the United States. From the present showing of decline in all wells in the United States today the Mexican production will make up a very greatly felt shortage here.

"The Mexican oil produced in the Casiano and Tuxpam districts yield almost 10 p.c. gasoline. The largest wells, with one exception, are in these districts. Therefore, a new and adequate source of gasoline supply will be available within the next few years. Any immediate relief of this situation lies mainly in the construction of two additional pipe lines by the Metropolitan Petroleum Corporation, and the construction of a large fleet of steamers by the Sun Co. for transporting this oil. No other large construction activities are now in progress in Mexico.

"While the Sun Co. has contracted to take 15,000,000

barrels of oil from the Metropolitan Co., the capacity of the line and the steamers under construction will enable the Sun Co. to take more than 6,000,000 barrels annually. Shipment should begin by the middle of this summer and increase up to the point of the capacity of the two projected lines, which will be a total of 15,000,000 barrels per annum. This latter figure the company hopes to reach within two years."

It was recently noted in the columns of the *California Derrick* that the Pan-American Petroleum and Transportation Company, the new combination which includes the Mexican Petroleum Company and other oil concerns, closed contracts with the Union Iron Works, of San Francisco, for the building of two more tank steamers at cost of \$2,750,000. These two new steamers will give the company twenty-two oil carriers with a combined capacity of 1,400,000 barrels.

There is, however, another side to this speculation regarding the part Mexican petroleum is to play in the oil situation of the world. There is a constantly increasing shortage of oil going on because of increased demand and decreased production. The enormous demand for gasoline and other products of crude oil, together with the greatly increased demand for fuel oil, brings the world face to face with a problem that will be most difficult of solution, and while Mexico may hold the key to the situation it must be remembered that a crisis seems to be approaching between that republic and the United States, and if this crisis results in either war or armed intervention it will mean that the first industry to suffer will be the oil industry, for all factions in Mexico agree that in the event of trouble with the United States the oil districts will be taken over by the Mexican government, and, if necessary, all of the wells and refineries will be destroyed rather than have them fall into the hands of the United States.

It is of interest to note in this connection that the shortage of oil has stimulated wildcatting in California and wells are being drilled in many parts of the state with the hope of discovering new fields. There is no question that great deposits of oil in California are still undiscovered, and we may look for some startling discoveries within the next year or two.



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Withdrawals and Better Prices

When discussing the conditions of California Petroleum Industry all talk usually hinges on the possible outcome of the suits brought by the government to oust operators from lands withdrawn by President Taft. There can be no question regarding the effect of such withdrawals if carried into effect, upon prices of California crude oil. Such withdrawal, and the limitation of further exploitation of oil land will lead to marked decreased in production, and this of necessity will bring about increased price, even though there be a measure of relief through governmental lease.

Many of the big concerns will suffer a marked decrease in output, while a number of smaller concerns will be driven out of business. In face of the rapidly increasing demand for crude oil and for gasoline, this can mean but one thing—the increase of price of crude oil at the well.

Those lands which are not involved in this litigation

will, of necessity, be of much greater value, and all companies owning properties that are free from this complication will be in position to make the best of the situation. There is much undeveloped land in California, notwithstanding the persistent efforts of certain companies and interested officials to create the opposite impression. It is recognized by these, even, that not more than 50 per cent of California's oil land has been proven. There are indications of a number of good fields which heretofore have been put in the non-productive class by those interested in keeping down the development work at large.

It is but a short time ago when talk of petroleum in San Luis Obispo, Monterey and San Benito counties was almost laughed at by the engineers of big companies, and also by state officials who seemed to follow the lead. Now it is recognized that all three of these counties bid fair to become great producers, rivalling the best of the state.

Tells of New Refining Methods

The *Wall Street Journal*, like many other Eastern financial papers, is taking much interest in petroleum affairs, and recently it published quite an illuminating article on the various refining processes. In course of the article it had the following to say:

"The most talked of process of gasoline extraction is the Rittman, although gasoline is a secondary product in that system of cracking distillates and residuum of petroleum, the principal products of it being benzol and toluol. Rittman's chief aim is the development of the dyestuff industry in this country, to which benzol and toluol are essential. These two products also are essential in the explosives industry. So far as actual results of gasoline extraction by the Rittman system are concerned comparatively little has been accomplished as yet, certainly not enough to make the system commercially important.

"Several new processes have been tried out on a small scale by chemists, although the big test as to their commercial availability still seems to be lacking. One of the most promising of the new systems is the Greenstreet process, which has been tried out in the Cleveland Refining Company's plant at Cleveland, Ohio. This process was devised by Charles J. Greenstreet, favorably known as an oil chemist, and is controlled by the Gasoline Corporation, a \$10,000,000 company.

"The Greenstreet system is a coil process and in its early tests have shown a remarkable gasoline extracting power. It is claimed for it that it can get from refuse oil of other refineries 75 per cent to 80 per cent of gasoline, in addition to getting an extremely high yield on all crudes.

"The best known of the new processes is the Burton, developed by the Standard Oil Company of Indiana and generally adopted by the other Standard concerns. The development of the Burton system itself has never ceased, and the Burton stills of today little resemble the original stills arranged by Dr. Burton of the Indiana company.

"Encouraged by the remarkable efficiency of the Burton system, Standard Oil chemists have continued the search for an even better process, and it is believed that the Indiana company again is far in the lead of the other companies, with the exception of the Standard Oil Company of California. One of the chemists employed at the Wood River plant of the Indiana company has developed a tube system which now is being installed in one of the plants of the Indiana company. It is called the Clark process, and is superior, it is claimed to the Burton."

PREPARING TO BLEND OILS

B. H. van der Linden, Chief Geologist of the Baataafschke Petroleum Company, parent corporation of the Dutch-Shell Oil Company, is making an official inspection of the properties of the company in California. He is interested in plans to blend Pennsylvania and California oils of heavier grade, resulting from mixing asphalt and parafine base oils. This work is now under way at Martinez, several carloads of eastern oil now being at the plant. It is understood that if the mixing process proves satisfactory, the company will acquire land on which there are evidences of oil of the same specific gravity as Pennsylvania.

HOMESTAKE RESUMES MANAGEMENT

The Homestake Oil Company, one of the oldest in the Coalinga field, having begun drilling in 1887, has resumed management of the Home Oil Company property on section 20, 19-25. The Home Oil Company had a royalty lease which the parent company has now taken up.

UNITED PAYS GOOD DIVIDEND

The United Petroleum Company, one of the Stewart companies which controls the Union Oil Company, has declared a dividend of \$2.50 a share, amounting to a total of \$201,877.50.

PETROLEUM AS A LOCOMOTIVE FUEL

Figures made public by the United States Geological Survey show a marked increase in the use of petroleum as locomotive fuel in the United States in 1915. The data presented show that the quantity of oil so consumed last year was 36,648,466 barrels, an increase of 5,555,200 barrels, or 18 per cent over the similar consumption in 1914. This increase is ascribed to the relatively low prices prevailing for fuel grades of oil during the year and a half as a result of increased production of low grade crude on the Gulf Coast states and in Mexico, and of the augmented output of suitable residuals from refineries operating in constantly increasing number in Oklahoma and Kansas.

The total distance covered by oil burning locomotives in 1915 was 124,255,525 miles, and the average distance covered per barrel of fuel oil consumed was 3.39 miles. Oil fuel is now used to some extent on forty railroads in the United States having tracks in twenty-one states.

DIVIDENDS INDICATE PROSPERITY

Announcement by the South Penn Oil Company and the Ohio Oil Co., of good-sized extra dividends in addition to the regular quarterly dividends in the second quarter, reflects the prevailing prosperity in the oil industry. South Penn, which has been declaring 3 per cent regularly every quarter and 2 per cent occasionally in 1914 and 1915, in March raised its regular quarterly dividends to 5 per cent, and now adds 3 per cent extra to the recently increased regular dividend.

Prairie Oil and Gas Company, another producing organization, profiting by the high price of crude oil, raised its quarterly 3 per cent to 2 per cent extra in the second period.

Ohio Oil Company, another good producer, paid 19 per cent extra in addition to the regular 5 per cent in March, and has repeated this liberality with another 24 per cent distribution payable in June.

Prairie Pipe Line paid 5 per cent and 5 per cent extra in the second quarter, and Illinois Pipe Line has declared \$12 dividend payable in June, following its \$15 dividend of last January.

Vacuum Oil Company paid 2 per cent extra in addition to its regular semi-annual 3 per cent, while Standard Oil Company of California, which has been paying 2½ per cent quarterly on \$50,000,000, continued the 2½ per cent quarterly on its new capitalization of \$75,000,000.

Other refining organizations which are known to be earning heavily are withholding dividends as their surplus profits are going into building operations to expand their gasoline output. This course is enhancing not only the equities but the earning power back of the stock, and should be reflected sooner or later in cash or stock disbursements.

Taken as a whole the increased disbursements indicate that 1916 will be a record year for the holders of securities in producing companies.

OVERHEATING OFTEN ATTRIBUTABLE TO FAULTY IGNITION

A pamphlet just issued by the Standard Oil Company entitled, "Engine Overheating, Mechanical Bulletin No. 3," throws considerable light on the problem of overheating of automobile motors. This bulletin says, in part:—

"One of the common causes of overheating is due to ignition. A late spark overheats the motor; the charge

is ignited after the piston has started down on the power stroke; consequently the hot gases are not expelled from the cylinder before the second charge is fired. This will continue until the cylinders become so hot that preignition will take place. That is, the gas will ignite before the piston has reached the correct point, resulting in what is known as a 'spark knock.'

"By advancing the spark lever on the quadrant, the mixture is ignited before the piston has reached top center, so that when the piston does reach the center and starts down, the expansion of the gases is complete, and they are exhausted at comparatively low temperature.

"Missing of one or more cylinders has a tendency to overheat the motor, as the fresh gas is taken into the missing cylinder and ignited by the outgoing charge from the working cylinder, which causes muffler explosions and back pressure on the cylinders which are working.

"The right kind of lubricating oil is a great help in keeping the motor cool, and many of the leading automobile engineers and motor experts say that oil made from western asphalt-base crude has less tendency to 'break down' under cylinder heat than oil made from other crudes, and is, therefore, a more efficient aid in keeping the motor cool."

CUBA WANTS GASOLINE ENGINES

There is a good and growing demand throughout Cuba for gasoline engines for use in pumping water for irrigation purposes. The season when best selling operations may be carried on is in the late Summer or Autumn, when preparations are being made for the dry Winter season.

Agricultural machinery and apparatus employed by farmers for preparing the ground and gathering the crops, also for improving and cleaning the crops without essentially changing their nature, is dutiable under section 216 of the import tariff, with "copper or copper alloys as the material of chief value," 10 per cent ad valorem to the world at large, with a 25 per cent reduction to the product of the United States, or 7.5 per cent ad valorem; "other" the same general rate with a 20 per cent reduction to American products, or 8 per cent.

Hydraulic, petroleum, gas and hot or compressed air motors, when not to be used in agricultural work as stated above or imported by shipowners, are dutiable under section 218 of the tariff, which provides for a net duty of 20 per cent ad valorem to the product of the United States when copper or copper alloy is not the material of chief value; otherwise 18.75 per cent ad valorem.

It is usual to grant more liberal terms of credit to firms in good standing on these products, but as the business is almost entirely in the hands of American exporters, the general terms of sale are not greatly different from those prevailing in the United States. If an American firm has a traveling representative covering the extreme southern territory of the United States, it might be well for him to make a trip to Havana from Tampa or Key West, to study trade conditions and endeavor to enlarge the field of operations of his company.

While there is much talk of increasing the trade of the United States in South and Central America, it would be well if our exporting firms would look at nearer markets.

TRYING TO INCREASE GASOLINE

Because of the fact that in a large majority of cases the laboratory results are not duplicated on a commercial basis, much skepticism is felt toward all new processes advocated for increasing the production of gasoline. The head chemist of one of the large Eastern concerns attributes this to the fact that it is possible to do many remarkable things with an eight-inch tube of crude oil that cannot be done economically on a larger scale.

One of the most recent refining processes that is arousing the interest of the trade is that invented and patented by L. O. Sherman, a chemist formerly in the employ of the Standard Oil Company, which process is now in course of litigation owing to an alleged breach of contract on part of Sherman with a former associate.

It is claimed that Sherman's invention will revolutionize the oil refining industry by making possible the extraction of a much greater quantity of gasoline than can be obtained at present. It is asserted that the tests made with the Gulf Coast crude oil yielded 80 per cent of gasoline of high grade, compared with a 15 per cent yield of inferior gasoline under the most improved processes of the refining company which furnished the crude product. It is admitted, however, that the tests showing this high percentage were made under what is almost laboratory conditions, and the practicability of the process remains yet to be proven.

The Sherman process is a cracking or pressure distillation process, but beyond this no information regarding it has been volunteered by the inventor. Sherman was formerly associated with Dr. Burton, whose process is now in use by the Standard Oil Company.

COMPLETE RECORDS NECESSARY

State Oil and Gas Supervisor R. P. McLoughlin is determined to have records that will be of value not only to the department but to all oil operators as well, and to this end he has issued the following instructions to all deputy supervisors:

"Hereafter you will not approve any application proposing to deepen, abandon, redrill or shut off water at a well unless this Department has been furnished with a complete log of the well in question, as provided in Section 18, Chapter 718, Statutes of 1915, together with the logs of the surrounding wells belonging to the same applicant. It will also be necessary for the applicant to furnish detailed statement of production of the amounts of water and oil produced from the well in question and the surrounding wells belonging to him.

"When necessary to inform an applicant of the above order you will please communicate with him on our Form 113, sending a copy to this office. Any of the above mentioned operations carried on without the approval of this Department will be in violation of the law and must be reported by you to this office.

"This ruling is made in view of the fact that it is impossible for us to do proper work without completing records. Reasonable notice has been given to all operators in the state that the records are necessary and required by law. A copy of the law was sent to every operating company on September 8, 1915, and also a circular letter, stating that logs were required, was addressed to each and every designated agent upon our receipt of his appointment.

PROFESSIONAL DIRECTORY

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Consulting Geologist and Petroleum Engineer

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MILLIONS IN DIVIDENDS

At the close of the first six months of 1916 there will be have been paid out in dividends by oil companies in California something more than \$5,000,000. In addition to this big sum there is another \$400,000 paid by the Producers Transportation Company, most of which goes to the Union Oil Company. The disbursement of stock to stockholders in many close corporations makes quite an addition to this sum, and taken as a whole the total disbursements in cash and stock for the six months will approach \$7,500,000. The following list gives some idea of the dividend payments:

Company—	Amount
Standard	\$2,500,000
Associated	800,000
Union	510,000
Amalgamated	300,000
California Petroleum	244,600
United Petroleum	*201,877
Kern River Oil Fields	190,000
Columbia	90,000
West Coast	90,000
Western Union	60,000
Fullerton	60,000
Rice Ranch	31,500
United Oil	20,000
Mascot	15,000
Olinda Land	10,000
White Star	10,000
Total	\$5,132,977

*Paid from dividends on stocks of Union subsidiaries owned by the United, not from payments received on union stock.

DEVELOPING OIL TERRITORY

The Oil Department of the California State Mining Bureau has about completed a thorough test and survey of underground conditions in the old Santa Paula field, and this survey brings out several features not previously recognized, and at the same time furnishes a basis for improving producing conditions. The Bureau has recommended that several of the old wells be shot with high explosives, and this recommendation is about to be carried out in an experimental way at Santa Maria, and will be watched with great interest by operators in all parts of the state. In the Santa Maria field considerable oil comes directly out of the shale, and it is believed that fracturing this shale with explosives will increase the flow. In most of the California fields oil comes directly from loose sand which needs no further loosening by shooting.

OLD WELL BEGINS TO FLOW

One of the wells of the Prairie Oil Company, in the Kern field, has surprised and pleased the owners by suddenly flowing. The wells of the company have been on pump and the company expected to produce sufficient fuel by pumping to enable it to sink another well, when greatly to everybody's surprise one of the wells commenced flowing with a strong gas pressure. The well has now been flowing for three weeks and the pressure seems to be increasing. The well is down 970 feet and has 125 feet of oil sand.

ASSOCIATED USES RITTMAN PROCESS

Permit has been granted the Associated Oil Company to use the Rittman refining process, by the Department of the Interior. This is the third permit issued to California companies in addition to that given to the Independent Oil Producers Agency. The others are the Premier Company of Coalinga, and the American Oilfields Company, both of which have been considering plans for going into the refining business.

ETHEL D. GETS NEW WELL

Eight hundred barrels a day was the spectacular flow of the new well of the Ethel D. Oil Company, recently brought in on section 36, 12-24, Sunset district. When the big sand was struck there was a heavy flow of gas which blew out the tubing and did damage to the derrick. The stream of oil and sand shot into the air more than 100 feet for several hours before it steadied down to a regular flow. Since the gas was blown off a steady flow of 800 barrels a day has been maintained.

MEXICAN OIL DIVIDENDS

It has been announced by the Mexican Petroleum Company that \$240,000 will be distributed as dividends to its stockholders on July 1st, at the rate of \$2 a share for the preferred stock. This makes a good showing since there has been considerable interference with the company owing to the trouble in Mexico, and as the company has expended several million dollars for construction and purchase of new tank steamers.

The Mexican Eagle Oil Company paid dividends of 8 per cent on its common and preferred stock in 1914 and 1915, notwithstanding the war conditions, and disbursements aggregating something like \$2,000,000 gold each year.

AN EXCELLENT PRODUCER

Well No. 44, of the M. J. & M. & M. Consolidated, on section 36, 12-24, Maricopa, which was finished several weeks ago, has been placed on the beam, and is producing nearly 100 barrels of light oil a day. The well was finished on record to a depth of 1,300 feet. The company will start drilling a new well in the near future.

OIL COMPANY BUYS A RANCH

It is reported from Ventura that a deal has been closed whereby the State Consolidated Oil Company has purchased the Sexton ranch, of more than 2,000 acres, adjoining the company's proved land. It is said the price paid was \$25,000. This purchase tied up most of the land of the district by the State Consolidated Company.

PRAIRIE OIL BUYS KERN LAND

A report comes from Bakersfield that a deed conveying 100 acres of land in the Kern River Oil Field from Alex Wark to the Prairie Oil Company has just been recorded, the consideration being given at \$50,000. There are two producing wells on the tract, and the Prairie Oil Company is preparing to drill another.

Operation will be renewed on the Comstock Crude Oil Company's lease on section 34, 12-23, Maricopa. Well No. 1 will be deepened.



Fuel Issue One of Livest Problems of Railroads

"The fuel issue is one of the livest ones the railroads have to face today, and in order to handle it in an economical way they must have the cooperation of the men who use the fuel and who are responsible for its consumption," said Superintendent T. Ahern of the Coast Division at a recent fuel oil meeting held at the Third Street station, San Francisco.

"The problem requires the co-operation of everyone," he continued, but you have to have the machine in good shape to get good results. This applies to the motive department in the use of fuel; to the dispatchers in seeing that trains are not unnecessarily delayed and, where there is a meet between heavy and light trains, in seeing that something is done to expedite the movement of heavy trains over the road rather than having them tied up at sidings, where there may be a waste of oil. In getting trains in and out of stations the conductor must be prompt in the handling of his business and return to the train as soon as possible. It is up to the trainmen, the trainmasters and to proper station supervision to see that trains are moved with as little delay as possible, for train delays cost fuel."

"The cost of fuel oil on the Coast Division is roughly \$700,000 per year," said Master Mechanic C. R. Burroughs, in a paper read by Mr. Ahern. "This money, after passing through the hands of officials, whose duty it is to see that every dollar entrusted to them for disbursement is economically and judiciously expended and full value received therefor, assumes the form of fuel oil and passes out of their hands and into ours through the firing valve, directly under control of the hands and the brains of the engine crews and those responsible for its consumption. It is up to us to drive as good a bargain with it and get as full value as the men who handle it before it reaches us."

"We are not going to attempt to lay down a set of cast iron rules and instructions to follow, or try to show you how, for I do not think we have an engineer or fireman on the division but who knows the economical and wasteful methods of fuel consumption, but, of course, we can all learn and improve, and it is the purpose of this meeting to exchange ideas and learn and improve, and not only get back to our former performance,

but better it. I want first to call your attention to the matter of making reports on defects on engines in order that shopmen may keep the machine in the perfect condition that it should be, otherwise the best efforts on part of engine crew cannot overcome the loss due to defective machine. Engine crews are always in the best position to detect defects, such as blows, etc., and should use every effort to locate and report them in order that the house doctor may know what medicine to prescribe and not use the wrong pill when he should be doing something else, for it costs something to pull a pair of pistons, looking for a blow in the valves. I have noticed many times where a crew, as long as they had no particular trouble themselves, although they were aware of the fact that the engine was not doing just as well as it had been, made no report of same. For example, I will cite an instance that happened a few days ago. One of our engines cut out of a fast train on account of flues leaking. On application of hydrostatic test, found pipes leaking, which was the primary cause of the engine failure. On inquiring among engineers and firemen, found that this engine had been leaking for a number of trips and no report made of same. Had this been reported, it would probably have saved the delay as well as the excessive amount of fuel consumed to overcome leaky pipes. Crews must not feel, although their reports and suggestions are not always acted on, there is any intention to ignore them and even though reports are not absolutely correct, they oft times give a clue to the real trouble.

"The matter of drafting engines properly to get perfect combustion is one of the most difficult problems the roundhouse foremen have to contend with. Not seeing the engines in operation he practically works in the dark, with only the assistance of such reports as he can get from engine crews, and many times makes unnecessary changes before reaching the cause of the trouble. This not only adds to the cost of repairs, but results in loss of fuel until engine is steaming properly. Of course when the road foreman of engines is available and can spare the time from his numerous other duties, etc., he can ride engines and locate any irregularity, but with 170 engines and 547 miles of division and half of his time devoted to other than mechanical matters, it is impossible for him to cover the entire ground and it behooves enginemen to make a study of their engine and give all assistance possible to the roundhouse in order

that oil-burning apparatus may be kept up to the highest state of efficiency.

'Roundhouse foremen' should follow the matter of the condition of the apparatus closely and know that when the engine leaves the house that everything is in first class shape for the trip, and when reports are made

that engines are not steaming properly, use every effort to find out why not. You are the doctor and it is up to you to take the numerous symptoms described and diagnose the case and prescribe the medicine."

A lively interest in the fuel problem was shown at the meeting, most of those in attendance participating in the discussion.

Wars and Rumors of Wars

With all the world aflame with the War Spirit, it is not at all strange that many people in the United States should become imbued with the desire to "mix it" with some other nation. Certain believers in the occult are of the opinion that conditions make thoughts and that, in turn, thoughts make conditions. We have the authority of the Good Book for the belief that "as a man thinketh in his heart, so is he."

It is not strange, then, that a warlike feeling should pervade mankind with the result that nearly everybody is going around with a chip on his shoulder, looking for an opportunity to spill a little blood. It is possible that what the nations of earth need just at present is what our old style doctors called plebotomy, just as the individual in former times was bled and cupped to relieve congested conditions. According to the doctrine of Malthus it sometimes becomes necessary for Nature to relieve congested humanity by wars, epidemics and scourges.

It seems a pity that if the United States finds it necessary to resort to this sort of relief she should have to "take on" Mexico. Certainly Mexico is not a foe man worthy of her steel. A war with Mexico could scarcely be called a war. It would be the infliction of punishment on an unruly lot of grown up children.

There would be fighting, of course. Mexicans will fight, just as Indians will fight. They will fight blindly and without organization. It would be the sort of fight that could bring no possible glory to the United States nor to her soldiers. But it may be necessary for the good of mankind in general and Mexico in particular that the United States go down there and take charge of affairs. To do this we would simply throw a wall of warships around the coast line and occupy the country with sufficient soldiers to thoroughly police the nation until such time as she shall be able to do her own policing.

Mexico is without food, clothing, arms and ammunition. She has at the outside an army of 100,000 men. We do not mean that this is the extent of her possibilities of gathering men together, but that is all she can arm and equip for battle. Mexicans are notoriously wasteful of ammunition and with no source of supply it would take but a short time until the country would revert to the weapons of savagery, just as it the battle of Juarez, during the Madero revolution, the greatest execution was done by the Tuhumari Indians with their bows and arrows.

But bows and arrows against modern weapons of war would mean nothing less than slaughter, and this thought would be too revolting for an American soldier to tolerate.

President Wilson has done many things in connection with his dealings with Mexico that have appeared

unwise. We have all thought he did wrong when he sent warships to take possession of Vera Cruz and demanded an apology from President Huerta. Huerta did not apologise and the flag was not saluted. When General Pershing was sent into Mexico with his 14,000 troops his hands were practically tied because he was not backed by adequate force, and because he was not permitted to take steps to prevent the massing of Mexican forces on his front and flanks.

President Wilson emphatically stated that the troops under General Pershing must "get Villa." It was stated with authority that the United States force would remain in Mexico until Villa was captured or killed. It is now known that Villa is in touch with the Carranza troops and is hobnobbing with Carranza officers, and Pershing has been ordered back to the border.

Possibly there may be military strategy in this seeming retirement and therefore it is unwise to criticise the move until we have more light on the subject, but there is no doubt as to the idea instilled into the Mexican mind by this retirement. General Travino has announced to all Mexicans that he has driven out the Gringos. This will so inflame the ignorant Mexicans that we shall now require an immense army on the border to prevent raids of irresponsible bands of marauders. The men taken from our business activities, ostensibly to pacify Mexico, will be placed in the ignoble position of watching desert wastes for bandits while their businesses suffer and their homes are desolated.

Decision, energy and quick action when the troops were sent into Mexico to catch Villa would have prevented the present humiliating position. Should we find it necessary to go back it will find our task increased many fold because the Mexicans have been led to believe that we are afraid of them and their army.

PALMER UNION GIVES LEASE

The California Oil & Gasoline Company, a new corporation has leased the property of the Palmer Union Oil Company on section 22, 4-21, Ventura county, comprising 100 acres and formerly operated by the Santa Paula company with a number of wells that have been on the non-producing list. Terms of the lease call for the payment of a royalty of one-eighths of the production to the Palmer Union. Three of the wells will be placed on the pump at once. The California Oil and Gasoline Company was organized last April with an authorized capitalization of 1,000,000 shares at par value of \$1 each. Of this amount 350,000 shares were given for leases and other properties and 650,000 was left in the treasury. Some of this treasury stock is now being sold in the east to secure funds for development work. The officers of the company are: M. H. Hannas, president; Frank Vale, vice-president; M. L. Jenks, secretary.

Still Discussing Waste

Wasteful use of oil has been under discussion among oil men for so long that the topic has become tiresome. It would seem that since everybody is agreed that there is wastefulness which means detriment to the industry, some steps should be taken which will prevent the waste both of oil and words. At a recent meeting of the Independent Oil Producers Agency, there was the usual discussion and from it may be taken the following as a sample of how the talk goes. R. H. Johnson led the discussion by saying:

"I have been intensely interested in the discussion not only from the scientific but also from the trade point of view. I do not know of anything more harmful that can go out from this meeting than such a headline, for example as 'the gasoline supply of the country will be exhausted in fifteen years.' Mr. Foljambe's conclusions are possibly misleading since his data refers entirely to the actual and potential domestic production of oil.

"We do not have to depend entirely upon our own country for oil, any more than we have to depend upon this country for many of the other commodities that we use. All our rubber comes from other parts of the world and not one pound from this country. It would be well to keep in mind the enormous productive possibilities of the Republic of Mexico. In Mexico there are probably the greatest reservoirs of oil in the world. The reports of the Mexican Petroleum company state that one well has been running about 20,000 barrels per day for seven years. These big wells are found in almost any part of the field and are capped up for lack of facilities to carry the oil out of the country. I have no doubt that the Republic of Mexico alone has several times the potential production shown in the table in the paper, which is made the basis of the conclusion that we are going to run out of oil in fifteen years. Mexico needs only facilities for carrying the oil to the seaboard and from the seaboard to our markets. The Mexican oil gives about 5 per cent of gasoline. I would like to ask Dr. Rittman if that 5 per cent is the result of ordinary distilling processes, or if it represents the ultimate production of gasoline possible by a cracking process."

Dr. Rittman—"The gasoline is derived by straight distillation. Mexico holds no hope for gasoline unless it is through the utilization of cracking processes, because on the overall basis of Mexico crude there is not much more than 1 per cent of gasoline in the oil as it comes from the earth.

"Of course the great outlet for Mexican oil today is the fuel under boilers. But the burning of this wonderful liquid for a straight fuel is an outrage, because you are burning gasoline that should be utilized fifty years from now."

Mr. Johnston—"How much gasoline can you get from Mexican oil by cracking?"

Dr. Rittman—"In the laboratory we have gotten as high as 40 per cent."

Mr. Johnston—"If you are getting 40 per cent in the laboratory, will you not eventually get 40 percent in the refinery by developing the laboratory methods?"

Dr. Rittman—"Yes."

Mr. Johnston—"Is that not really the solution of the gasoline problem?"

Dr. Rittman—"Yes, that is a solution. We burn, in

the form of fuel to replace coal, about 25 per cent of the crude oil that comes from the ground. We use another 25 per cent in the form of gas oils to make gas, where coal could be used with equal ease, in a byproduct oven. We are selling kerosene for less than it costs without paying nature for it. We use 25 per cent of the crude in internal combustion engines. If we could take the crude out at one-fourth the present rate, make it all into gasoline and use coal for fuels for the other purposes as it should be used, then the exhaustion of our oil would not be a question of twenty-five years; it would be a question of seventy-five years."

LANE STATES HIS POSITION

Secretary Lane has come out with a flat-footed denial of the assertion of Gifford Pinchot that he, Lane, was favoring the Phelan amendment to the General Mineral Land Leasing bill which would give titles to preverential leases to California oil operators ousted from their claims by the Taft withdrawal order. He has given the following to the press:

"Where the warrant comes for such a statement I do not know. The only time that anything like it was presented to me was when Lieutenant Governor Eshelman brought a similar proposal to me and I told him that I would not stand for it. The Phelan amendment has never been referred to me by congress nor does any person who ever talked with me labor under the delusion that I favor it. I am in favor of passing an oil leasing bill, along the lines of the Ferris bill, passed by the house twice in the last two years. The difference between the Phelan amendment and the provisions of the Ferris bill is one of liberality in treatment of claimants.

"In my last annual report I expressly stated that I would not assume to say what policy should be followed as to the naval reserve lands. There is no danger of the navy being short of oil, for there are nearly three million acres of public oil lands now, withdrawn. Included therein are two special naval reserves which are practically free from adverse claims. These contain approximately 130,000,000 barrels of oil.

"To keep three million acres of oil land locked up indefinitely while gasoline is climbing higher, is not good sense and plays into the hands of monopoly. If congress can at this time deal with leasing legislation sane and conservative legislation will result that will help every real developer and consumer interested in oil and gasoline and which will prevent waste and monopoly.

"The only difference that has arisen between Mr. Gregory, Mr. Daniels and myself has been over the soundness of a legal decision, (the Honolulu case) rendered by the commissioner of the general land office, touching a private claim within the withdrawn area, which I am so certain is correct that I have offered to submit the matter to the courts for decision."

The Valley Natural Gas Company, of Bakersfield, has purchased from the Standard Oil Company, of New Jersey, the California Natural Gas Co., of Bakersfield. The purchaser company is to expend \$500,000 in extending the field of operations of the joined companies.

General Petroleum Reorganization

Under the reorganization plan of the General Petroleum Company there have been deposited \$18,913,200 securities out of \$19,232,000 outstanding, leaving undeposited \$318,800. Out of \$10,540,300 free bonds, which includes \$6,000,000 collateral bonds, \$10,250,000 have been deposited, leaving undeposited \$281,300. Out of \$8,691,700 interim certificates, \$8,654,200 have been deposited, leaving undeposited \$37,500. Of the latter \$35,000 are coming in and the remaining \$2,500 belong to an estate which is now trying to get judicial authority to deposit under the plan. Thus there is good reason to believe that 100 per cent of the interim certificates will finally be deposited. This is almost unprecedented in a reorganization plan involving an issue of this size.

With the probability that the undeposited securities will finally be reduced below \$300,000, the minority interests can be bought for less than \$30,000 cash, which would be their pro rata under the foreclosure sale.

In connection with the reorganization plan and its success Frank B. Anderson has addressed the following letter to Andrew Weir:

"As chairman of protective committees of holders of bonds and interim deposit certificates of the General Petroleum Company I have given much time and attention to investigate the relations between you and the company, and it gives me much pleasure to be able to say unreservedly, as I do, that in my opinion you have kept and performed all of your contracts with that company and its stockholders and bondholders to the letter, and have voluntarily during the last three years, made advances to the company which were never contemplated in the contract."

While giving attention to the efforts of Mr. Weir, Mr. Anderson has voiced the feeling of all who have been cognizant with the conditions surrounding the efforts to bring out a betterment of conditions in the affairs of the General Petroleum Company. But Mr. Anderson, himself, is deserving of no less credit for good work done

than he accords to Mr. Weir. He has worked faithfully and well with his fellow members on the committees and it is due to the persistence of such men as Mr. Anderson and Captain Barneson that the General Petroleum Company, is now in a fair way to assume its place among the great petroleum companies of the world as one of the best and most prosperous of California companies.

It has been a long and arduous task that these committees have accomplished and they deserve the commendation of all who have the interests of the industry at heart.

GENERAL PETROLEUM SOLD

The General Petroleum Company was sold at public auction by the Mercantile Trust Company, trustee, for \$2,000,000, to the new organization which will take over the property under the reorganization plan outlined in the last number of the DERRICK. This plan has been approved by Corporation Commissioner Carnahan.

There was a large crowd in attendance at the sale yet there was but one bidder. Frank B. Anderson, president of the Bank of California and chairman of the General Petroleum reorganization committee, was the spokesman and he bid \$2,000,000. This sum was accepted and it will be paid over by the trust company to the holders of the old first mortgage bonds of the company.

This sale made by the Mercantile Trust Company, under the authority of the trust clause of the first mortgage bonds, wipes out something like \$25,000,000 of stock issues. All creditors have been protected.

The reorganization committee consists of Frank B. Anderson, Percy T. Morgan, Mary L. Gerstle, John D. McKee, Phillip I. Manson and Herbert I. Clayburg.

Marketers Hunting Oil

One of the most significant changes that has come to the petroleum industry in recent months is the change of attitude of the marketing concerns. Heretofore they have been on the alert for new customers and have been trying to keep down production owing to the surplus of oil above ground. This situation is now changed, and with it has also come a change in the action of the purchasers of fuel oil.

Formerly, when there was such a surplus of oil, the consumers did not have any fear of running short of supply and as a result they were content to receive the minimum of deliveries on contracts. Now, however, they have taken a look ahead and are demanding from the marketing companies maximum deliveries.

There has come a marked change in price on deliveries at San Francisco. Last year, when competition was keen, fuel oil was sold at points around the bay at 47 cents a barrel. The latest price set by the Standard Oil

Company raises this price to 95 cents at central tank stations with extra charges for deliveries.

This increased price comes through increased export demand for California fuel oil, as well as because of increased manufacturing facilities which call for fuel oil.

FIGHTING MISREPRESENTATION

The Mining and Oil Bulletin, the official organ of the Los Angeles Chamber of Mines and Oil, has the following to say regarding the facts of the oil suits and the attitude of Congress:

"Straightforward, open, honest effort by a few oil men in Washington, bearing the brunt of the burden to secure for the oil industry of this state that simple need of justice to which it is entitled, seems to have brought forth the usual weapon of those opposing honesty of purpose in espousing a just cause—a campaign of villification, abuse and scandal.

"Gross misrepresentation of facts, vicious reasoning,

an unholy avoidance of court expressions and opinions, virulent opposition to any honest pioneering, may be expected from the petty officials and alleged geologists of the department of justice, now in California feeding at the public trough—for the passage of remedial legislation would terminate their bright careers in this golden state.

"However, we anticipate more judicial treatment from cabinet officials. Our inherent respect for the positions with which so few citizens may be honored doubtless leads us to expect those so honored weird or Solemn-

like wisdom in the handling of broad problems. Evidently, however, two of our federal departments have failed to weigh carefully this great question so vital to the oil man of the state. They have failed to temper selfishness with justice, and it is to be regretted that the honestly conducted campaign of the oil operators should be placed in the same category with the Ballinger-Pinchot controversy. Our press has even stated that reports of governmental investigators have been suppressed because too favorable to the cause of the oil operators."

California's Petroleum Production

One of the most interesting tables that have come under our notice is that which appeared in the July number of the Standard Oil Bulletin, showing the total production of petroleum in California since the beginning of the industry, down to the first of 1916.

These figures show that out of a total of 851,260,420 barrels from the wells of all the fields in the state, the Kern River field tops the list with 181,747,075 barrels. It is interesting, also, to note that the first field exploited in California, the Newhall and Ventura county field is close to the smallest, being just above the most recent discovery at Lost-Hills-Bellridge.

In 1893 the total production was 470,179 barrels and ten years later this had reached the good total of 24,-

334,481 barrels. The next ten years in 1913, the production had increased to 97,867,184. This increased practically 6,000,000 barrels in 1914 and then fell off to 89,566,779 barrels in 1915.

While the table shows no figures for 1916, reports for the first half of the year indicate that the production will again go above the 100,000,000 barrels.

This table, taken in connection with reports from all the fields in the United States, shows that California not only leads all of the other states of the Union, but that its production is increasing while elsewhere there is a constant reduction of output. The demand for crude petroleum is becoming excessive owing to its many new uses and to the increased demand for gasoline and fuel oil. The table follows:

TOTAL PRODUCTION OF CRUDE OIL IN CALIFORNIA

FROM THE BEGINNING OF THE INDUSTRY TO 1916

By Fields—in Barrels (42 U. S. Gallons)

NOTE.—The acreage of proven oil area in each of California's oil fields was published in the March issue of the BULLETIN, at which time was also given the total production, by fields, to December 31, 1915. In addition to those figures, which are republished in the following tabulation, is herewith given the crude oil production of each field for each year since the beginning of the industry in the State. It is a history in figures of California's crude oil production and field development.

Year	Kern River	McKittrick	Midway	Sunset	Coalinga	Santa Maria-Lompoc	Summerland	Newhall and Ventura Co.	Los Angeles and Salt Lake	Whittier-Fullerton	Lost Hills-Bellridge	Miscellaneous	Total
Prior								175,000					175,000
1876								12,000					12,000
77								13,000					13,000
78								15,227					15,227
79								19,858					19,858
1880								40,552					40,552
81								99,862					99,862
82								128,636					128,636
83								142,857					142,857
84								262,000					262,000
85								325,000					325,000
86								377,145					377,145
87								678,572					678,572
88								690,333					690,333
89								303,220					303,220
1890								307,360					307,360
91				★				323,600					323,600
92		★						385,049					385,049
93								470,179					470,179
94								1,500	524,469	257,109			783,078
95								16,904	476,490	751,945			1,245,339
96								39,792	298,866	905,003			1,257,780
97					14,119			130,136	368,282	1,327,011	12,000	4,000	1,911,569
98		10,000			154,000			132,217	427,000	1,462,871	60,000	3,000	2,249,088
99	★	15,000			439,372			208,370	496,200	1,409,356	108,077	1,500	2,677,875
1900	826,775	80,000	★	12,500	547,960			183,486	443,000	1,722,887	254,397	248,945	4,319,950
01	3,278,840	430,450	4,235	188,600	525,433	★	203,616	472,057	2,304,432	302,652			7,710,315
02	8,988,046	619,296	3,048	167,558	571,233	86,888	143,552	475,000	2,198,496	1,103,793			14,356,910
03	16,342,099	1,353,206	27,305	352,565	2,138,058	204,890	131,125	682,185	793,765	2,305,613	3,670		24,334,481
04	17,226,240	1,856,225	910	390,425	5,097,853	700,450	120,506	650,779	1,241,304	2,224,550	39,392		29,548,634
05	15,253,845	1,373,030	18,530	419,212	8,882,125	3,402,800	96,871	476,898	2,226,768	2,118,312	29,650		34,298,041
06	12,825,166	680,756	11,800	307,550	8,401,105	4,799,411	72,810	404,379	2,675,650	2,434,512	10,090		32,623,229
07	12,346,014	2,415,840	149,944	704,805	8,996,268	8,249,236	69,060	435,584	3,372,465	3,294,206	69,090		40,102,512
08	13,803,579	3,076,300	434,578	1,463,510	10,725,795	8,699,350	67,862	498,015	5,138,959	4,273,314	125,475		48,306,737
09	14,508,242	5,807,360	2,234,455	1,999,701	15,406,619	8,017,455	66,338	516,628	4,350,898	5,157,252	126,775		58,191,723
1910	14,776,435	5,471,613	11,174,207	9,218,904	18,646,570	7,607,830	74,725	652,575	3,729,618	6,281,221	4,900	58,970	77,697,568
11	14,078,890	5,477,532	21,584,602	5,559,069	18,311,251	7,465,074	71,255	661,785	3,223,661	7,081,165	168,410	61,350	83,744,044
12	12,446,445	5,094,465	25,948,980	5,590,824	19,546,122	6,801,966	65,715	859,885	3,073,427	7,919,779	2,680,961	45,870	90,074,439
13	9,980,940	4,496,842	33,040,129	5,984,651	18,604,626	5,817,711	62,406	1,022,052	2,898,846	10,657,053	5,274,553	27,375	97,867,184
14	7,030,545	3,820,857	37,479,228	12,546,615	15,925,887	4,303,080	55,743	968,421	2,504,475	14,130,548	4,830,921	27,375	103,623,695
15	8,034,974	3,552,801	33,311,486	6,006,607	13,548,159	4,536,840	53,000	1,036,305	2,110,133	13,030,549	4,318,550	27,375	89,566,779
Total	181,747,075	43,631,573	165,423,437	50,913,096	166,552,695	70,692,981	2,066,989	17,616,305	49,679,079	82,748,993	17,278,295	909,902	851,260,420

★ Indicates First Well

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

A DANIEL(S) COME TO JUDGMENT

Daniels, secretary of the navy by grace of President Wilson, presumes to tell the people of the United States that this country is so poor that it cannot run war-

Secretary of the Navy Josephus Daniels, is credited with saying that unless the United States takes possession of the oil fields of California and develops them the United States might as well give up building warships. If it has to pay for its fuel. According to that sort of reasoning the United States should own and operate the coal mines which now provide the navy with coal. It should own and operate all the factories which make ammunition and arms as well as the armament which goes to build the navy. It should become, in fact, an ideal paternal government in which all of the goods used by the United States should be owned by the United States.

It is but another instance of paternalism gone mad.

If we were to go into an investigation of Secretary Daniels we would find that we have to do with a visionary, a dreamer of dreams, and not a practical man of affairs, such as one would naturally and rightfully expect to find at the head of a great department upon which this country must depend for defense in time of need.

No man has done more to break down the spirit de corps of the navy of the United States than the present secretary of that department. He has assumed to take from the officers of the ships their position as executives and commanders of men and place them on a basis of equality with those whom they command. It is one of the dreams of socialism that there shall be no commanders. Daniels wants equality to be the keynote on ships and when he puts forth this idea he but writes himself down an ass.

The United States, in years gone by, assumed suprem-

acy of the seas because of the efficiency of the men in command of ships and of the men who owned them. The American merchant marine was the best known of all lands, the American flag was seen in every port and the American ships were the best in the world, until there came a time when governmental intervention brought about such intollerable conditions as to drive our shipping off the high seas and confine our efforts to coast-wise trade.

What governmental intervention did for the merchant marine Daniels is now trying to do with our navy, and our only hope lies in the fact that it is but a few more months when such men as Daniels will be relegated to private life by an indignant people, tired of the windy and pedantic actions of a coterie of mollycoddle school teachers who are now trying to show how a government ought not to be run.

OIL STILL ADVANCING

The Standard Oil Company of California announces another 5 cent raise in the price of crude oil at the well, bringing the price up from 63 to 72 cents according to grade. The Derrick has been persistent in the prediction that crude petroleum would reach the dollar mark by the middle of 1917, and the steady advance noted in the announcements of the Standard Oil Company indicates that this price will be reached before the date set by these predictions.

Crude oil is now 95 cents a barrel at San Francisco bay points, which indicates the demand is becoming stronger while the visible supply is lessening. It is a well recognized fact that the stocks above ground have been materially depleted and that it will be but a short time until the only dependence will be upon the flow of wells. This flow is less than during previous years, and with the big fields showing a falling off in production it will mean that unless new fields are developed the price will not only go to the dollar mark at the well, but will go beyond that figure.

Geologists say that the oil fields of California have all been discovered and that there will be no more great deposits found. It is to be remembered in this connection that they said the same thing just before the great Lakeview gusher was opened and it will also be remembered that the geologists said there would be no oil found in the Maricopa flat. Geologists sometimes err on the side of "safety first" and fear to express an opinion lest they be held responsible for unprofitable wells. If the geologists would not try so hard to be "conservative" in their statements it is possible that many new wells would be put down on a venture in districts that have surface indications. The writer has in mind one profitable district where even after the wells were started the experts tried to talk operators out of further work. Had the experts' advice been taken at that time a good field would have been left untried.

Pioneering in the oil business is one of the most unprofitable kinds of business until the oil is discovered. Then the explorer has to battle against all sorts of adverse circumstances such as transportation and difficulty in securing storage, but there has never yet been discovered a paying field that did not bring profit and plenty to those who had the nerve to expend enormous sums to try out a theory. It is not like mining of any other sort for the initial expense is enormous and there is no such thing as "cheap" wild catting.

GREATER SAN FRANCISCO

For nearly ten years there has been agitation in and around San Francisco regarding the extension of the city. Six years ago there was formed a Greater San Francisco Committee by the California Promotion Committee, which worked faithfully for many months, securing data and laying plans for an active campaign which would bring together all of the territory in a radius of fifteen miles of the San Francisco City Hall. Owing to opposition in Oakland this plan was abandoned.

Now there has come a new movement which has for its object the consolidation of all of the district down the peninsula, and the mayors of the various cities of the district affected, have been holding meetings for the purpose of formulating some concrete plan of action.

Under the present movement San Francisco City and County will practically absorb all of San Mateo county. There will be a vast territory included that is now almost wild land. Just what the idea of police protection of this country district may be we have no means of knowing, but it does seem that to take a line as far down the peninsula as Redwood City, and from the Bay to the Ocean would mean a burden on San Francisco that is unnecessary and uncalled for.

In Los Angeles it was desired to have a seaport and that city took in a "shoestring" some eighteen miles long to San Pedro, and the example set there would seem to be a good one to follow. There is a "shoestring" down the line of the Southern Pacific that takes in about all of the thickly settled part of San Mateo county and this strip might be taken over, leaving the rest of the farming country outside of the new city and county.

The DERRICK believes in expansion of the city, but does not believe in an expansion that is unnecessary and ridiculous. In time there will come a consolidation of the city about the bay into one political unit, just as it is now one great population center. At present the bringing in of the small towns down the peninsula is desirable but when it is done let it be done right.

GARRIGUES IS SEEING THINGS

John Garrigues, who has been a thorn in the side of the Union Oil Company ever since he was ousted as treasurer, has explained his position regarding certain remarkable statements attributed to him of dominating the lumber, oil and financial business of the Pacific Coast. When on the witness stand he gave in substance his recollection of statements, and made the following remarkable prophecy in explanation of his position:

"I am one of those who believe that the future of the world for the next thousand years is going to be decided on the Pacific Coast of the United States, and California is the heart of that future. I believe that before another generation the United States will be broken up, because we have long since departed from the motives and purposes of the men who founded this republic.

"Now, the well-being of the people of California depends, you might say, upon the lumber industry, upon their financial arrangements, and upon their government, and I believe the same forces are at work again, preparing for the new republic here on this coast, so that when the time comes government shall be by the best men and the great business and the great industries upon which the prosperity of the people depend will be in the hands of men who are thinking of the general good and

as far as I am concerned, I have been working to the utmost of my power to help that kind of men.

"That's why I came in the Union Oil Company, and that's why I am talking too. Mr. O'Donnell said: 'Well, patriotism and altruism and these platitudes are all right Mr. Garrigues, but this is business and if we tried to follow your theories, we would all land in the poorhouse.' 'Well,' I said, 'I don't know about that. I have been doing that for a good many years and I am quite a ways this side of the poor-house. I don't think there are seven men in the state of California that make as much money by the sweat of their brow as I do.' "

STANDARD AS MANUFACTURER

According to the Wall Street Journal California is to be the scene of one of the largest chemical manufacturing industries of the world. This is to come through the Standard Oil Company of California, which is to be one of the most important factors in the change.

This development is looked for by oil men who are familiar with the peculiar qualities of California crude oil which makes it specially adapted to the manufacture of certain chemicals and dyestuffs. The favorable location of the Standard Oil Company of California to one of the world's largest users of dyestuffs, China, is pointed out as another reason for the development of this industry by the company.

At present the Standard Oil Company of California is one of the largest manufacturers of sulphuric acid, the acid plant at Richmond having a daily capacity of 170,000 pounds of sulphuric acid. El Segundo plant also has an acid plant with a daily output of 24,000 pounds. In addition to this acid production there is an immense amount of tulou and benzol manufactured by the company in California.

The company produces vast quantities of gasoline and recently has been shipping large amounts to the East. It is to be remembered that the price of gasoline, which is considered high here at 19 cents a gallon, is now selling on the Atlantic seaboard at from 28 to 33 cents a gallon. It can be shipped from California plants to the Atlantic and a big profit made through the difference in price.

SENATOR PITTMAN'S AMENDMENT

Senator Pittman has laid before the United States senate a proposed amendment to the Mineral Land Leasing bill, which provides as follows:

"That where a locator or claimant under claim initiated by filing mineral locations upon any unpatented oil or gas lands prior to withdrawal thereof, or his successors in interest, being disputed in his or their claims to such lands by a state or by private parties occupying the same under claim of title from a state adverse to the paramount title of the United States have diligently prosecuted his or their claims by asserting paramount title of the United States, a lease shall be granted to said locator, or to his successors in interest, of 2,560 acres within the limits of his or their claims upon the terms and conditions as to royalty and relinquishment prescribed in this section for leases to locators, such lease to be granted as of the date of application therefor upon final adjudication that such lands are public lands of the United States."

Petroleum Output in Appalachian Field

The output of petroleum in the Appalachian field, which includes the areas of oil production in New York, Pennsylvania, West Virginia, Kentucky and southeastern Ohio, was 22,860,048 barrels in 1915, according to statistics compiled under the supervision of J. D. Northrop of the United States Geological Survey, a decrease of 1,241,000 barrels, or 5 per cent, from the output of this field in 1914. This decrease was well distributed among the contributing states and is remarkably small in view of the fact that the oil market did not begin to recover from the depression caused by the overproduction of oil in Oklahoma in 1914 until August, 1915.

The petroleum marketed from this field in 1915 by states, and in barrels of 42 gallons is as follows:

Pennsylvania, 7,838,705; New York, 887,778; South-eastern Ohio, 4,431,493; West Virginia, 9,264,793; Kentucky, 437,274. the total for the district being 22,860,048 barrels.

The average price of this oil at the wells was \$1.55 a barrel and the total market value was \$35,468,973, a decrease of 33 cents in average unit price and of \$9,770,228, or 22 per cent in total value, from 1914.

Throughout the field as a whole, drilling activity, which generally reflects market conditions rather closely, was below normal, though in certain areas there was abnormal activity resulting from the discovery that there were underlain by small pools of oil that had been overlooked in the earlier development of the region.

A total of 5,197 wells were completed of which 2,095, or 56 per cent, yielded oil, 1254 were classed as gushers, and 1028 were barren. The combined output for the first day of productive life of the oil wells completed in 1915 was 31,922 barrels, or an average of 11 barrels for each well. Individual wells in Pennsylvania and New York averaged 7 barrels each, in eastern and central Ohio, 12 barrels, in Kentucky, 13 barrels and in West Virginia, 18 barrels.

In western New York field activity was moderate and no new areas of production were added to the old pools. New oil wells in the Allegany district numbered 76, which gave a total initial yield of 122 barrels, or an average of less than 2 barrels per well. In December considerable interest was aroused by the completion, near Canisteo, Steuben County, 20 miles east of the Allegany district, of a freak well which, from a depth of 695 feet, yielded for a few days a small quantity of amber-colored petroleum reported to have a gravity of 52 deg. B., and to contain 85 per cent of gasoline. Other wells put down in same locality were barren.

In northern Pennsylvania activity in the Bradford and Middle districts was confined almost exclusively to proved leases where the returns, though small, were reasonably certain. Near Ridgway, Elk County, the development of the gas field opened in 1914 was continued with gratifying success. In the Venango-Clarion district activity in the development of gas overshadowed the routine operations in the oil pools.

Southwestern Pennsylvania was the center of interest in the northern portion of the Appalachian field owing to the fact that new wells in this region averaged higher in initial yield than elsewhere in the state and to the discovery of two new areas of oil production during the year. At Evans City, in Butler County, the completion of a 125-barrel well on the Lutheran Church lot in May

proved the incentive for a frantic town-lot development that resulted in the rapid exhaustion of a small pool of oil in the third sand, overlooked in the development of the region years ago. In Indiana township, Allegany County, the old Dorseyville field was extended to the north and east in the last half of 1915 as the result of promising discoveries of oil in the 30-foot sand in June. In this pool well No. 2, completed in October by the National Oil and Gas Co., on the Robinson farm, comprised the record well of the year in the northern part of the Appalachian field, its first day flow being reported at 1,017 barrels. In North Versailles township, also in Allegany County, a gas well estimated at 45,000,000 cubic feet open flow was completed on the Spiegel farm in July and furnished an incentive for additional drilling in the same locality, which, however, resulted only in wells of ordinary capacity.

Developments in West Virginia in 1915 did not extend much beyond proved territory, and no important areas of new production were discovered. In all 763 successful oil wells were completed in this state in 1915, Marion county leading in activity, but Kanawha county leading in new production. The pool discovered in December, 1914, near the mouth of Laurel Run, in Cabin Creek district, in Kanawha county, contributed 10 wells that averaged better than 100 barrels each the first day of their productive life but attracted little attention from companies other than the Columbus Producing Co., which controls the oil rights on several thousand acres that surround the pool. In Wetzel County deeper drilling on Fishing Creek near the town of Minnie resulted in the partial development of a promising pool of oil in the Big Injun sand; and in Clay district, Monongalia county, the unexpected discovery of oil in a well drilled for gas near Mooresville caused a little additional drilling.

In strictly wildcat territory a small producing well was reported late in the year on Clymer Creek, Curry district, Putnam county, and in September the efforts of the South Penn Oil Co. to develop a Berea-sand pool in Butler district, Wayne county, on the Kentucky border, were rewarded by a 10 barrel well in an area where previous tests had been disappointing.

In December the completion of a small oil well 2 miles west of the old Murphytown pool, in Clay district, Wood County, revived interest in the possibilities of finding a new pool in the vicinity of Parkersburg.

In Southeastern Ohio there was a moderate activity throughout the year without the stimulus of new discoveries that were important as to location. In the "shallow sand" territory, Washington County, easily led in activity and in new production, the Marietta and Newport districts furnishing a number of creditable producers during the year.

In the "deep sand" territory, where the oil is obtained from the "Clinton" sand, interest was well sustained in the Union Furnace district, Hocking County, by the successful completion of a number of wells, ranging in initial production from 100 to 350 barrels, in an area whose limits have not yet been fully determined. Efforts to extend the area of "clinton-sand" production southward into Vinton county were sufficiently successful to inspire new drilling that should furnish conclusive results in 1916. Toward the north operations in Muskingum, Perry

and Licking counties failed to add new territory to the developed pools. Late in the year the advancing oil market resulted in a marked increase in wildcat activity in this part of the state in the search for new pools of "Clinton-sand" production comparable with the Bremen, Wooster, and Sugar Grove pools. That this search may result successfully in 1916 is indicated by the encouraging results of one test in Holmes County, east of Brinkhaven, that was reported good for 100 barrels of oil the first day of productive life.

The completion of only 92 wells in Kentucky in 1915 as compared with 178 in 1914, reflects the state of lethargy that prevailed in the oil fields of that state during the greater part of 1915. The year was not, however, without its developments of interest to the local industry, though they came too late to affect appreciably the oil output in 1915. The most important feature of this character was the rejuvenation of the old Irvine pool in Estill County, or rather the extension of its productive limits 6 miles toward the northeast. The restoration of pipe line facilities to this pool by the Cumberland Pipe Line Co. in December stimulated activity in the new extension, which is certain to give a good account of itself in 1916.

In the Scottsville-Petroleum district, in Allen County,

which has no market outlet other than the railroads, little activity was reported until late in the year, when the price of oil had advanced to a point where rail shipment became feasible. Before December 31 a number of good wells had been completed in this district, one of which was a mile beyond territory in which there had been any production.

In Edmonson County the completion of a 10-barrel well in April, attracted little attention in an area remote from facilities for marketing.

The return of Tennessee to the ranks of the oil-producing states comprised a feature of much interest in the Appalachian region, though the absence of markets prevented the state from making a statistical showing in 1915. In April the Whitcomb Oil Co. successfully completed a 50-barrel well at a depth of 1700 feet (pay "sand" at 945 feet) on the Toomy farm, 4 miles northwest of Oneida, Scott county, near the Kentucky border. At the end of the year the "Oneida pool" was credited with 4 wells having a combined capacity of 200 barrels of oil, 1 gas well and 7 dry holes, and other test wells were being drilled in Scott and Fentress counties, in the northeastern part of the state, and in Lake County in the extreme northwestern part.

In the Mexican Fields

It is but natural that under existing conditions of trouble in Mexico much interest should revolve around the oil fields of that country. All sorts of reports come out of Mexico and it is difficult to get the exact condition.

A representative of one of the leading oil companies of Mexico says emphatically that there is no cause for uneasiness regarding the oil companies and their properties in Mexico. His particular company, which is the largest in Mexico, has always maintained cordial relations with the various factions in Mexican political troubles. It owns the largest part of the lands in fee, and, consequently, has been able to maintain strict neutrality between the factions, not being affected either by favoritism or antagonism.

The location of the Mexican oil fields close to the coast render them especially easy of protection by naval vessels. At present there are two United States gunboats near Tampico ready to give aid and protection.

According to a report from Galveston, Texas, all of the oil camps in the Ruxpan district have been abandoned, according to thirty refugees who arrived at Galveston recently on the British tank steamer San Ricardo. They were ordered by the American consul to leave Mexico at once or to remain at their own peril.

Notwithstanding the disturbed conditions big developments are planned, upon a scale never before undertaken in any oil region of the world, in the Tampico district, when assurances are felt by investing interests that political and industrial peace shall have come to the republic, and that capital will not be overburdened by taxation.

It has been authoritatively announced by the Lord Cowdray interests of London, operating in Mexico under the names of the Eagle Oil Company, and the S. Pearson & Son, Ltd., that it has appropriated \$75,000,-

000 American gold for expanding its oil industry in Mexico.

The Mexican Petroleum Company will expend \$5,000,000, while many other millions are to be spent in developing the different fields of the Gulf Coast region by the Pierce Oil Corporation and the Dutch-Shell Trading and Transport Company, the Magnolia Petroleum Company, the Gulf Refining Company, the Pennsylvania-Mexican Fuel Company and other operating concerns.

Expansion in the Mexican Petroleum Company's earning capacity has been rapid in the past few months and estimates point to a net of \$8,000,000 to \$9,000,000 for 1916, or close to 20 per cent on the \$39,110,500 common stock. The present increase in net compares with earnings for the last two years as follows: Three months ending May 31, last, \$1,530,000, or at the annual rate of about \$6,120,000; year ending December 31, 1915, \$2,888,101; year ending December 31, 1914, \$2,763,055.

Deliveries have begun on the contract recently signed by the Mexican Petroleum Company with a leading distributing company whereby the purchaser takes all the excess over 10,000 barrels a month of gasoline which the Mexican Petroleum produces. During May about 60,000 barrels were shipped on this contract, and it is figured that the June total will be about 80,000 barrels. Mexican Petroleum is getting double the price for this distillate, or "tops" that it got on an earlier contract. Net earnings from this contract alone are estimated to be equal to 6 per cent on Mexican Petroleum common.

Net earnings of the Pan-American Co. as reported for the three months ended May 31, 1916, based on its stock ownership of principal subsidiaries (Mexican-Petroleum Transport Co., etc.) were approximately \$975,000. Of this amount \$410,000 represents the proportion for the month of May.

Earnings similarly accruing to the Pan-American Co.

for the month of June are officially estimated at \$516,000, or at the annual rate of \$6,192,000, which compares with the \$4,593,000 original estimate for 1916, made earlier in the year. Annual earnings of \$6,192,000 would be equal to about 8 3-4 times the Pan-American preferred dividend and after allowing for the preferred dividend would be equal to about 18 p. c. on the \$30,-494,750 Pan-American Petroleum & Transport Co. common stock.

Interest in American oil companies operating in Mexico, for the most part express confidence in the securities of their properties in case war actually breaks out. Nearly all of these properties, they say, lie outside of what would be the actual zone of military operations. In this connection it is pointed out that the refining and terminal plants at Tampico and Vera Cruz, and the products producing companies around Tampico and to the south, belonging to Americans, can quickly and effectually be protected by American warships.

At present there are about 450 Mexican soldiers at Tampico and there is an American population of more than 1000. It is believed that proper precautions have already been taken by these Americans to fully protect

themselves and the interests they represent in case an attempt should be made to do them injury.

American companies having important interests in Mexico are: Mexican Petroleum Company, Texas Company, Pierce Oil Corporation, Gulf Refining Company, East Coast Oil Company, Penn.-Mex. Fuel Company, Standard Oil Company of New Jersey, Port Lobos Oil Company, Freeport Mexican Fuel Oil Company and the Tampico Oil Company.

It is recognized that in case of serious trouble between the two nations the outlying distributing stations of the Pierce Oil Company would be exposed throughout the interior of Mexico, and the corporation stands to have some loss on this account. Its more valuable effects, however, are represented by refineries at Tampico and Vera Cruz and producing properties near Tampico.

One of the greatest causes for uneasiness lies in the ease with which a large oil plant can be destroyed by incendiaries, and already individual Mexicans as well as Mexican officials have stated that in the event of hostilities it would render useless all of the petroleum industry of Mexico. If these incendiaries succeed in destroying plants at Tampico and Vera Cruz it will mean incalculable loss.

New Development Work

New oil wells which have been reported to the State Mining Bureau as starting to drill during the week ending June 17, 1916, number 18. Three are in the fields near Los Angeles, while the remainder are in the San Joaquin Valley, the old Kern River field having six, the Midway five, three in the Belridge-Lost Hills territory and one in the McKittrick "front," which has seen considerable activity in the past few months.

The other branches of development work, such as deepening or redrilling wells and testing of water shut-off in both old and new wells, follows rather closely with the geographic distribution of new wells. Such work will be considerably increased within a few months, when enlargement of the engineering staff of the bureau is possible with funds raised by assessment, as there are numerous applications on file requiring investigation of regions which are poor producers due to water infiltration.

Development work in the oil fields, as shown by the reports of the State Mining Bureau, have indicated increasing activity for several months. The report for the week ending June 17, 1916; again breaks all previous records for the number of new wells beginning to drill, the number being twenty-nine, bringing the total since the first of the year up to 330. Care given by the operators under state supervision, to the proper maintenance of old wells is indicated by the large number of deepening and redrilling jobs, there being eleven this week with three abandonments and twenty-one tests of water shutoffs.

Among the new wells more than usual interest among oil men will be given to the J. E. O'Donnell wells started in Sections 2 and 3, 31-22, which locality is between the south end of the McKittrick field and the northern extension of the midway field in a region long subject to speculation as to its productive value.

The notices of assessment to raise funds for carrying

on the oil work by the State Mining Bureau for two years and for the repair of wells, are now being mailed. About six hundred companies and individuals have been assessed. A special board of equalization and review will be constantly in session at Sacramento until July 3rd, for the adjusting of any errors in the assessment roll.

The oil field reports of the State Mining Bureau for the week ending June 24, 1916, show only six new wells starting to drill which is far below the average, 354 having been reported since the first of the year. However there is nothing to indicate a general slump in the business. Twenty wells were ready for test of water shut-off, six deepening or redrilling and two being abandoned.

Activity in the oil business is causing some inquiry as to possibilities in new and untried districts. Developments during the past two years have not altered the conclusions published in Bulletin No. 69 of the State Mining Bureau, which enumerates all the oil localities of the state and summarizes possibilities. Past development has covered most of the territory where the presence of oil was clearly indicated and future prospecting must be in the less clearly defined yet promising regions. The low ranges of hills south of the City of Los Angeles are a very notable example of such territory, having not been sufficiently prospected.

SECTION TWENTY-FIVE EXTRA

Section Twenty-Five Oil Company which has been paying dividends of 12 1-2 a share a month for a long time, has increased its business and now announces an extra dividend at the same rate, making a monthly payment of 25 cents a share. The company is capitalized at \$40,000 with shares at \$1, making an investment that brings 25 per cent a month.

Drillers Very Active

Great activity is noted in all of the California oil fields. New wells are being drilled in increased numbers and more are being contracted for. This is especially true of the region south of the Tehachapi in the counties of Ventura, Los Angeles and Orange. More than seventy strings of tools are at work in Los Angeles and Orange counties. More than sixty of these are within proven districts and the number of wildcats is very small.

At Fullerton well No. 7 on the Union Oil Company's Hole lease, within the city limits, has been put on the pump and at first flowed at the rate of 3,400 barrels a day. It was brought in at a depth of 2300 feet. It is by far the best producer in what is known as the East Coyote field.

The new derrick erected by the Petrolia Oil Company on section 12, 11-24, Maricopa, for the drilling of Number 5 well has been completely rigged up and drilling has commenced. This well is the third of the new wells planned to be started since February, and will add greatly to the production of the property when it is completed. The No. 2 and No. 3 wells are now producing at the rate of between 75 and 100 barrels daily, and that, together with the production of the No. 1 and No. 4 wells makes the amount of oil handled monthly more than double that handled before the campaign of drilling was commenced.

Among the new wells much interest will be given to the O'Donnel wells. These have been started on sections 2 and 3, 31-22, which locality is between the south end of the McKittrick field and the northern extension of the Midway field, in a region long subject to speculation as to its producing value.

It is understood that the Kern Trading & Oil Company within the next month, will add to the prominence of the North McKittrick Front activities by development work on lands situated between seven and eight miles northwest of McKittrick. While the extent of the initiatory steps of the company in the number of derricks to be erected is not yet known, the fact that this corporation, which has hundreds of wells in the Coalinga, Kern River, Sunset, Midway and McKittrick districts is to enter the North McKittrick field is regarded by oil men as significant inasmuch as it strongly indicates faith in the future of this much talked of region, wherein there has been a marked revival of exploration work since the beginning of the present year, and where the company controls extensive tracts of land.

The Standard Oil Company, which recently acquired by lease several hundred acres of land on the North McKittrick front, erected two derricks on one tract and is now preparing to drill on property it secured some time ago from the McKittrick Oil Company. This land lies three miles north of the city of McKittrick, and the first rig to be built will be erected a comparatively short distance east of the Olig station of the Producers Transportation Agency.

The General Petroleum Company, in the Lost Hills district, has started drilling three new wells on section 4, 27-21, and in the Belridge territory has started two new wells on section 3, 29-26, and two new wells on section 2, 29-21. The Company has tested the water shutoff on well No. 10. A section 4, 27-21, Lost Hills. In the Coalinga field the water shut off was successful on well No. 37, section 6, 20-15.

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(California)



No. 14 well of the St. Helens Petroleum Company, Ltd., on section 16, 32-25, Taft district, is in with a flow of better than 500 barrels daily. The No. 15 well is drilling at a depth of 1200 feet with a rotary. On No. 16 the crew is now rigging up preparatory to starting drilling within a week.

The Associated Oil Company is about to start an active drilling campaign in the Cat Canyon district. Five new rigs have been erected on properties that have been neglected for several years.

CRUDE OIL PRICES AT THE WELL

Effective July 7, 1916, Standard Oil Company offers the following prices for crude oil at the well:

San Joaquin Valley Fields

Kern River, Midway-Sunset, McKittrick, Lost Hills-Bellridge, Coalinga.

14 deg. to and including 17.9 deg. gravity, 63c per barrel.

18 deg. to and including 18.9 deg. gravity, 64c per barrel and for each increase in gravity of one (1) full degree above 18.0 deg. gravity, up to and inclusive of 24.9 deg. gravity, and one (1) cent per barrel additional.

25 deg. to and including 25.9 deg. gravity, 72c per barrel, and for each increase in gravity of one (1) full degree above 25.0 deg. gravity, two (2) cents per barrel additional.

Ventura County

25 deg. to and including 25.9 deg. gravity, 72c per barrel, and for each increase in gravity of one (1) full degree above 25.0 deg. gravity, two (2) cents per barrel additional.

Whittier-Fullerton Field

16 deg. to and including 17.9 deg. gravity, 63c per barrel.

18 deg to and including 18.9 deg. gravity, 64c per barrel, and each increase in gravity of one (1) full degree above 18.0 deg. gravity up to and inclusive of 24.9 deg. gravity, one (1) cent per barrel additional.

25 deg. and including 25.9 deg. gravity, 72c per barrel, and for each increase in gravity of one (1) full degree above 25.0 deg. gravity, two (2) cents per barrel additional.

The foregoing constitutes an advance of 5c per barrel on all grades over the prices announced on April 1, 1916.

DRILLING IN COALINGA FIELD

The Kern Trading & Oil Company is making ready to drill on section 5, 21-15, on the west line of the section, offsetting of the California Oil and Gas Company, the Lucille Oil Company and the Coalinga Oilfields Company, formerly the De Luxe Oil Company. The first well will be drilled in the northwest corner of the section. Geologists are of the belief that sands under section 5, indicated by the dip of the formation under section 6, 21-15, promise to be very prolific. It is claimed that the Blair Oil Company, on section 14, 21-15, drilled its wells too high on the formation, and that the sands, though deep, are further to the east, and are the same sands that underly section 5.

NEW SUITS FILED

Two suits to recover 640 acres of oil land in the San Joaquin Valley were filed in the United States Court at Los Angeles on June 15. The government alleges fraud against five companies, and gives the value of the properties at \$750,000. One suit was directed against the Lost Hills Mining Company and the Universal Oil Company to recover 160 acres of land valued at more than \$500,000. The other suit is against the Pioneer Midway Company, the American Oilfields, Ltd., and the Midland Oilfields Company, Ltd., to recover 480 acres of land south of McKittrick, valued at more than \$250,000. An accounting and the appointment of receivers was asked by the government.

BETTER TULUOL DEMAND

There is a better demand for tuluol, according to inquiries for delivery over the remainder of the present year. These inquiries which are constantly increasing, lead to belief that important business in this article is at hand. These inquiries come from both foreign and domestic buyers. Domestic manufacturers of explosives who are figuring upon new contracts with European governments are in the market. There is practically no spot tuluol to be had, and some producers have fallen considerably short of their deliveries, with the result that they are forced to acquire product from other sources. One negotiation of this kind now active represents a need of over 10,000,000 gallons. Spot tuluol is now quoted on a flat basis of \$4.75 a gallon. Tendency in solvent naphtha is toward increased demand with limited supply.



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25 Rooms at \$3.00 per day	

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STANDARD EXTENDING WORK

The Standard Oil Company of California is installing the largest gasoline compression plant in the state on its McNee properties in the Midway field. The plant will have a capacity for handling 12,000,000 cubic feet of natural gas daily, and will be equipped with five 600 h. p. gas engines with direct driven compressors.

The company is extending its development work and is increasing activity in sections producing low gravity oils. This move indicates an expansion of the company's fuel oil business as well as its lubricating oil business, with a possibility that these low grade oils are to be used for the extraction of bases for dye stuffs and explosives. The company has been carrying on extensive laboratory research work along these lines and reports say that there have been most encouraging results.

At the present time the consummation demand for California oils is running about 1,000,000 barrels a month in excess of production, and while that condition obtains, market for raw material and refined product should have a rising tendency. The Standard had more than 26,600,000 barrels in storage in January 1, 1916, all grade of California oil, and is profiting by the improvement in prices.

The Imperial Company, the Canadian subsidiary of the Standard of New Jersey, is continuing its plan of plant expansion, and its plans for its new refinery at Regina, B. C., directly north of the Wyoming and Montana oil fields, have been enlarged and now involve \$1,500,000 outlay and the employment of 500 men now at work on the site. This company is also extending its plant at Vancouver, is building an asphalt plant at Montreal, a large marketing headquarters at Quebec and is negotiating for a waterfront site at Toronto for the erection of a plant there.

The Anglo-American Oil Company has declared its regular semi-annual dividend of 5 per cent and 5 per cent extra, a total of 20 per cent in 1915 profits.

UNION PROVIDENT DISSOLVES

Announcement is made by Lyman Stewart, chairman of the board of directors of the Union Oil Company, that the stockholders of the Union Provident Company had adopted resolutions authorizing the company's disincorporation. In a letter sent out to the shareholders Stewart says:

"This action was taken after a majority of the shareholders had become satisfied that the interests of all can be properly safeguarded upon disincorporation of the company, and that certain economies would be effected thereby, in the matter of income tax imposed by recent legislation, and expense in other directions saved."

The letter is emphatic in its statement that the resolution to disincorporate the company was neither induced nor in any manner influenced by any action or proceedings initiated by the Union Oil Stockholders Protective Committee, but is in conformity to plans announced to the stockholders before the pending court proceedings were brought by John Garrigues and others.

The taking of testimony in the suit brought by Garrigues and others is now practically ended, and one of the most interesting points raised is that of past acquiescence in the acts complained of. In this connection the defendants have offered to prove by the books of the Union Oil Company that the shares now held by the plaintiffs, and relied upon as the basis of their right

to bring this suit, have been voted at annual meetings in favor of the very acts now complained of. It is contended that by this fact the complainants are estopped from now questioning the legality of these acts. Also the failure of the plaintiff to make any objection to the existence and control of Union Oil by two holding companies during the many years that they have existed now bars them from any right to maintain an action questioning this control.

NIPPON OIL COMPANY'S YEAR

One of the largest producing concerns in Japan is the Nippon Oil Company, which has a number of wells, yielding a fair amount of high grade petroleum. One of these, on the Nishigasaki lease, in the Nishiyama field, from a depth of 3000 feet is producing 30 koku of 47 degrees Baume. Still another well 2575 feet deep, has an output of 35 koku of 32 degree oil from the upper sand. This well, on the Kamada lease, was drilled in three months.

Both rotary and cable are used by the Hoden Oil Company on its Koguchi lease, in the Nitsu district, where the production ranges from 30 to 50 koku every twenty four hours.

The Nippon Oil Company made a net profit of 1,870,554 yen according to the semi-annual statement dated Dec. 31, 1915, which showed a half year dividend at the rate of 20 per cent per annum.

Although petroleum, known in Japan for centuries afterwards as "Moyura mizu," or "inflammable water," was discovered hundreds of years ago by the inhabitants of Echigo, its value was not known. When it was realized in Japan that the kerosene imported from the United States was a product of this inflammable water, the Japanese, usually quick to learn, realized that in their own land there was an abundance of the mineral whose value had been unknown to them. They at once began the work of development and one of the results of this is the present very prosperous Nippon Company.

EAST PUENTE COMPANY ACTIVE

The East Puente Oil Company, which has a number of good producing wells in the North McKittrick field, is quite busy at development work at Camp No. 2, which adjoins the main camp, close to the properties of the Kern Trading and Oil Company and the Jackson Oil Company. Well No. 3, recently spudded in, is down 750 feet with satisfactory progress of the drilling. Well No. 2, finished recently at 1,290 feet, followed the first well which was brought in at the beginning of the year, and promises to make a good record. The company will erect two more rigs at Camp No. 2.

LEVY ON OIL COMPANIES

A report comes from Sacramento to the effect that the Board of Review on assessments, correction and equalization of oil and gas districts organized naming John Francis Neylan, chairman of the board of control as chairman. The other members are R. E. Collins, chairman of the state board of equalization and Fletcher Hamilton, state mineralogist. Protection of the natural resources of petroleum and gas from waste is the object of the board. The board levied an assessment of \$150,000 upon oil companies of California to pay the costs of administration.

Continued Demand for Quicksilver

The domestic quicksilver industry has continued active during the first six months of 1916, and the average price for the period has been about double the exceptionally high average for the entire year 1915.

Figures just compiled by the United States Geological Survey show that the total production of quicksilver in the United States in 1915 was 21,033 flasks of 75 pounds each, having a marketed value of \$1,826,912, or an average of \$86.86 per flask. Of this output 14,283 flasks, selling for \$1,174,881, came from California, and the remainder almost entirely from Texas and Nevada. The actual average sales value for the whole country exceeded the average market value in San Francisco—which was \$85.80 for the year. In 1914 the domestic output was 16,548 flasks, valued at \$811,680, and therefore the production for 1915 showed an increase of over 27 per cent in quantity and 125 per cent in value.

The increased domestic demand for quicksilver in the last eighteen months has been due mainly to war requirements for fulminate and drugs. Early in 1915 domestic stocks began to be drawn upon and production became more active, but as foreign embargoes left the field clear and domestic output was unable to meet the rapidly increasing call for the metal, prices continued to rise throughout the year and into the early months of 1916, the high mark of \$300 a flask being passed in February. Naturally every mine and prospect became of interest. The reaction set in, however, as the high prices drew out quicksilver supplies in Mexico and elsewhere that has been originally purchased for amalgamation of gold and silver ores, and finally as the British Government permitted exports

to America under certain limitations. The average monthly domestic price in San Francisco, which had climbed from \$51.90 in January, 1915, to \$295 in February, 1916, dropped to \$219 in March, \$141.50 in April, \$90 in May, and about \$72 in June.

The market remains steady and in general highly profitable, and as domestic prices have dropped below London quotations exports rather than imports of the metal may be expected. There is probably no great quantity of metal stored, and consumption is undoubtedly abnormally large.

Favorable markets have brought out great activity in search for new prospects, and discoveries near Morton, Wash., and Beagle, Oreg., in 1916, have led to some development and construction of reduction plants. Also in the Skull Valley deposits, Ariz., referred to many years ago by W. P. Blake, and at Black Pine, Idaho, some activity is reported. Many old furnaces have been repaired or enlarged in California, Nevada and Texas, old workings have been reopened and new discoveries have been developed.

Very likely the exceptionally high prices of the last few months have led to gouging and robbing many mines of their best ore, and the average tenor of the ore worked by the larger mines during the first half of 1916 may prove considerably below that of previous years. Moreover, some mines have undoubtedly passed their maximum productivity. These conditions are probably offset to some extent by the fact that more furnace capacity is now working on quicksilver ores than at any previous time in the history of the industry. On the whole the midyear outlook is for an output in 1916 fully equal to that of 1915.

Gold and Silver in 1916

The precious-metal mining industries continued active during the first six months of 1916, practically all important mines and mills operating at full capacity, according to a statement just issued by the United States Geological Survey. Shortage of cyanide supplies, feared in 1915, was obviated by increased output of domestic sodium cyanide, which has practically replaced potassium cyanide in the leaching of precious metals. Flotation has begun to increase saving of gold from tailings. There may have been some increase in gold prospecting during the last eight or ten months, as many old gold prospectors have been giving attention to deposits of tungsten, antimony, quicksilver and other mineral products whose value has enhanced since the outbreak of the war. There was also some labor shortage at mines and mills owing to high wages paid in factories making war supplies.

Final figures of the Geological Survey and the Bureau of the Mint give a total domestic production for 1915 of \$101,035,700 in gold, and 74,961,075 ounces of silver, valued at \$37,397,300, against \$94,531,800 in gold and 72,455,100 ounces of silver in 1914. These figures include the gold production of the Philippines, which has been steadily on the increase.

The total output both of gold and silver reported for 1915 was the highest ever recorded under the American flag, but if the Philippine output be eliminated the production of gold in the United States proper was but little above the previous record year of 1909. The output of silver for 1915 was materially above the preceding record yield of 1914. For 1916, from the midyear point of view, the output of gold which is apparently falling off somewhat as compared with 1915, in Colorado, California, Nevada, and some other states, and increasing possibly in Arizona, Oregon, the Philippines, Idaho, Montana, New Mexico, and elsewhere, will probably reach a total somewhat below the high output of 1915. The production of silver, however, will undoubtedly again break all previous records, as the output of silver ores and of the copper, lead and zinc ores which produce silver in notable quantities will exceed that of any preceding year, owing to steady demand and high prices for all metals.

Prices of silver were low in the greater part of 1915. The monthly average commercial price at New York, which rose to about 52 cents an ounce in November, however, reached 55 cents in December, and climbed

steadily to over 74 cents in May, 1915, then fell to about 65 cents in June. The sharp increase in prices resulted from strong demand for the Far East at the end of 1915 and abnormally large requirements by the belligerent countries for coinage for the troops in the field. These demands found available stocks low, largely because of the great falling off in the Mexican output due to the long continued disturbance there. With the consequent inevitable rise in prices domestic producers of silver profited greatly, notwithstanding the increased cost of labor and of mining supplies. Silver is in demand not only for coinage but also for sterling and other silver wares, as well as for drugs and chemicals. The manufacture of silver salts used in photography, particularly in films for hand cameras and cinematographs, has vastly increased in recent years. The midyear outlook indicates continued demand for silver, the metal last to benefit by the general domestic prosperity.

PROSPERITY IN THE IRON INDUSTRY

The first six months of 1916 in the iron industry showed a continuation of the highly prosperous conditions that prevailed during the last four or five months of 1915, according to E. F. Birchard of the United State Geological Survey. In fact, activity was even greater in 1916 than in the first half of 1915. Large increases are shown in the output of both iron ore and pig iron. The shipments of ore from the Lake Superior region during the first five months of 1916 were more than 10,000,000 gross tons, or 83 per cent greater than those of the corresponding period of 1915.

Ore price at lower lake ports for 1916 were increased 75 cents a ton over those for the season of 1915, but lack of boats is reported to have forced concessions in the price of ore from some mines that do not control their lake transportation facilities.

The production of coke and anthracite pig iron in the first five months of 1916 showed an increase of 66 per cent over that of the corresponding period in 1915, and prices are from \$5 to \$7.25 per ton higher, or 33 to 40 per cent above those in June, 1915.

Prices for steel bars and beams have increased 100 to 130 per cent over those of a year ago, and if conditions are not adversely affected by miners' strikes now threatening and if the present strong demand for iron and steel continues, the total ore output from the Lake Superior region may possibly reach 60,000,000 gross tons.

Birmingham and other iron districts are not capable of such rapid increases in output as the lake districts, and if 10,000,000 tons be estimated for the production of all other districts it indicates a possible total domestic production of iron ore of 70,000,000 gross tons for 1916. At any rate, there are good indications that a new high record of iron-ore production will be made this year.

DIVIDEND NOTICE

The German Savings and Loan Society (The German Bank), 526 California street—Mission Branch, corner Mission and 21st street; Richmond District Branch, corner Clement street and 7th avenue; Haight Street Branch, corner Haight and Belvedere streets.—For the half year ending June 30, 1916, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, payable on and after Saturday, July 1, 1916. Dividends not called for are added to the deposit account and earn dividends from July 1, 1916. George Tourny, Manager.

PROFESSIONAL DIRECTORY

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Consulting Geologist and Petroleum Engineer

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THE NECESSITY FOR A SETTLED TARIFF POLICY

The necessity for a settled American tariff policy was emphasized Wednesday in an address before the National Gas Engine Association at Chicago by Dr. Frank R. Rutter, assistant chief of the Bureau of Foreign and Domestic Commerce, Department of Commerce. If the country is to hold its own in the bitter competition for trade that will follow the war, the Government must be given the opportunity to make favorable commercial treaties with foreign countries. "It should be borne in mind," said Dr. Rutter, "that concessions can not be obtained in the tariffs of other countries if we are not willing to make concessions ourselves."

"A fixed commercial policy is particularly necessary at the present time," said the speaker. "With rumors of trade agreements that will give preferential rates of duty between the allies, and with rumors of a customs union to cover Germany and Austria-Hungary, we must be in a position to know definitely the effect on our industries of any proposed foreign action. Can we not, if we know the situation well enough to make proper representations, obtain rates of duty that will at least put our products on an equality with those of other countries (a privilege which we do not now enjoy in France) and possibly in a position of even greater advantage?"

The proposed tariff commission was referred to as a step in the right direction, as it would serve the excellent purpose of taking the tariff out of politics. The commission is also authorized to study commercial conditions and to advise regarding commercial policies and commercial treaties, and in this way will be of the greatest possible assistance in establishing a settled tariff policy.

The speaker pointed out a number of instances where the manufactures of gasoline engines in this country were at a disadvantage in certain foreign markets because certain tariff rates amounted to discrimination. In Russia, for instance, a low rate of duty on tractors is interpreted to apply only to steam tractors, and a much higher rate is applied to gasoline tractors. It would be most advantageous if an agreement could be reached whereby the low rate of duty could be applied to the gasoline tractors. In Austria there are different rates of duty for traction engines and for automobile engines, the higher rate of course being applied to the latter. The customs authorities have ruled that when a gasoline tractor is equipped with a light engine which might be used to drive an automobile the high rate of duty should be applied to it. This is a decided disadvantage to American manufacturers, for it handicaps our light tractor motors in competition with the heavy engines made in Europe.

In spite of the fact that the war has interfered with the foreign trade in gasoline engines, there has been considerable improvement of late, said Dr. Rutter, and the prospects for the future are very bright. During 1913, the last normal year before the war, the total value of internal-combustion engines exported from the United States was over \$11,000,000, of which traction engines were the most important item, being valued at \$5,000,000. Canada has been the chief purchaser of gasoline engines, in spite of the fact that England enjoys a preferential tariff. Argentina and Australia are the next customers in importance, al-

though not nearly so important as Canada. Over half the engines imported by Argentina come from this country, but in Australia the advantage lies with Great Britain.

RUSSIAN OIL FIELDS DEVASTATED

A report from Chicago says that Jacques Van Braam, of Paris, representing French Oil interests, is in that city negotiating for large quantities of petroleum for export. According to Braam the oil fields of Galicia and Western Russia have been so devastated by the war that production has not only practically ceased but so many properties are in ruins that it will take several years to get the minto producing condition again. Russia has been compelled to stop exportation of oil to France.

ASSOCIATED SECURES KERN LAND

Another deal on the new west front of Kern was noted in the recording of a deed to the northwest quarter of section 23, 28-27, by C. S. Young, the well known oil man, to the Associated Oil Company. The land is on the Lerdo mesa and is about a mile southeast of the Standard well on section 15, which is flowing over the casing. The price of the 160 acres was \$18,000.

The Standard Oil Company has taken over the Home Oil Company, on section 20, 19-15, Coalinga, where there are six producing wells. Five other wells on the property have been suspended for several years. These will be placed on the production list.

RALPH ARNOLD'S NEW OFFICES

Ralph Arnold, the well known consulting geologist and petroleum engineer, has moved his New York office to the Equitable Building, at 120 Broadway.

SAVE YOUR PAPER MATERIAL

The Secretary of Commerce is sending to about 4,000 commercial organizations a letter inviting their co-operation in efforts to relieve the present serious shortage of paper material. The letter states:

It is believed that the chambers of commerce and boards of trade in every city can render a signal service to all the people of the country as well as the paper industry by urging individuals and firms in their respective districts to save refuse rags and papers.

This department is in a position to furnish inquirers with the names of leading wholesalers of paper stock. It is not, however, in possession of the names of smaller local firms which assemble rags and paper and sell them in minor quantities. Inquirers from your locality for such names will be asked to communicate with your organization.

Will you, therefore, have on file in your association a list of local dealers in paper stock which may be furnished to inquirers?

The Post Office Department is cooperating with the Department of Commerce in arousing the public to the needs of the situation by having posted in each office a statement setting forth the present conditions. One million copies of the following statement will be distributed through various channels, and especially with the assistance of the commercial organizations.

The attention of the Department of Commerce is called, by the president of a large paper manufacturing company, to the fact that there is a serious shortage of raw material for the manufacture of paper, including rags and old papers. He urges that the department should make it known that the collecting and saving of old rags and old papers would greatly better existing conditions for American manufacturers.

Something like 15,000 tons of the different kinds of paper and paper board are manufactured every day in the United States and a large proportion of this, after it has served its purpose, could be used over again in some class of paper. A large part of it, however, is either burned or otherwise wasted. This, of course, has to be replaced by new materials. In the early history of the paper industry publicity was given to the importance of saving rags. It is of scarcely less importance now. The Department of Commerce is glad to bring this matter to the attention of the public in the hope that practical results may flow from it. A little attention to the saving of rags and old papers will mean genuine relief to our paper industry and a diminishing drain upon our sources of supply for new materials.

A list of dealers in paper stock can be obtained from the local chamber of commerce or board of trade.



Phelan Makes Strong Argument

That the Navy Department has misled many people into believing that the oil operators of California were disposed to interfere with the use of oil by the navy, was the assertion made by Senator James D. Phelan in a vigorous speech on the floor of the United States Senate recently.

"The oil operators of California are simply taking care of their own oil," said Phelan, "and it will be available for the navy just as soon as the navy is ready to pay for it. There is no way of dispossessing these two thirds owners, held unassailable title except by compensation. Not, certainly, by confiscation.

"The litigation, which is now being prosecuted, while no doubt zealously conducted, has in many cases been conducted in a spirit of hostility to men who may be likened to the pioneers of this country who went into the hard and difficult places, as the Western Senators understand, and who have, by their enterprise and industry, developed natural resources which otherwise never would have been known.

"The government has never drilled a well. The government as such, has never done anything to develop the land, because it has been the policy of this government from the beginning to offer inducements and encouragement to the pioneer to develop its mineral resources; and that this is today a country rich in minerals is due simply to the wisdom of the policy of the law, and not because the government itself has done any pioneering or any work of development.

"Had the government spent out of the Federal treasury, as is frequently done now, large sums of money for purposes of development, the cost would have exceeded the value of the output, because we all know in the West that the pioneer has, in the greater number of instances, failed in his enterprise, and it is only the few who have succeeded.

"The Navy Department has created a false impression as to interference in any way by the men of California and the West with the oil supply so called, of the navy. It is well to remind the Senate that the Presidential withdrawal of these lands in September, 1909, was in the nature of an exercise of usurped power. The constitution provides that only Congress, having exclusive jurisdic-

tion, shall dispose of the public lands; and the President, in spite of that provision of the constitution, withdrew these lands in California.

"The Supreme Court has decided, by a divided vote, that because Congress has not disaffirmed the unauthorized act of the President, it has, by some unknown principle or process of jurisprudence, become a valid act. Because Congress failed to disaffirm an unauthorized act of the Executive, it became a valid act!

"There was a very able dissenting opinion in that case, which, in the opinion of many lawyers, is regarded as a very sound interpretation of the law, but it is not necessary to criticize the opinion of the court, except in some measure to justify those men who went in after the Presidential withdrawal and whose lands I do not refer to.

"But I say that two-thirds of that area in California is held by unassailable title by the men who went in before the Presidential withdrawal, and that others, having been advised by counsel that the Presidential withdrawal was unauthorized, and who established rights prior to the act of Congress of June, 1910, which did authorize subsequent withdrawals, were safe in making their investment and employing their labor. These men, victims of a questionable interpretation of the law, now ask preferential treatment in leasing on a one-eighth royalty the lands on which they have spent their time and money. This is the essence of the matter which so alarmed the navy.

"It may be stated that, whereas the Senator from Virginia has stated that 5,000,000 gallons of oil were necessary for the navy annually, as a matter of fact, only 600,000 gallons of oil are being consumed today, but that the increase in the navy in the course of five or six or seven years will probably require the amount of 5,000,000 gallons annually. In the 3,000,000 acres of government oil land there is estimated to be 175,000,000 gallons of oil, as against a yearly consumption today of 600,000 gallons. So the experts of the navy are not justified in informing the country that the oil supply is about to be depleted, and that oil-burning ships will have to be abandoned unless some remedy is given on the part of the government."

Union Oil Reports Work

The Union Oil Company of Cal., earned during the six months ended June 30, 1916, at the annual rate of 25 per cent before depreciation and 18 and one-half per cent after depreciation. It has also been announced that the stock would go on a regular six per cent basis. These and other facts are set forth in the following communication to stockholders:

"Profits earned from all operations, after deducting general expenses, taxes and interest charges, were approximately \$4,350,000, an increase of \$2,174,000 over the corresponding period of last year, and equivalent to 25 per cent per annum on the issued capital stock. The net profit after making provision for depreciation was approximately \$3,150,000, an increase of \$1,890,000 over the same period of 1915, and equivalent to 18 and one half per cent per annum. Our principle subsidiary companies, Producers' Transportation Company, Union Tool Company and Southern California Iron and Steel Company, show satisfactory earnings for the half year.

"Production of the company and controlled companies combined for the half year was 3,114,000 net barrels, an increase over the half year ending June 30, 1915, of 559,000 barrels. During the past few weeks three wells were brought in having a combined initial daily production of 10,000 barrels of refining oil.

"Sales for the half year approximate \$13,150,000 as compared with \$8,862,000 for the same period of last year. Prices both for fuel oil and refined products have ruled higher than a year ago, while the volume of business done was considerably larger. Deliveries of fuel oil during the past six months have been large, but our oil in storage is approximately the same as at the commencement of the year.

"Capital expenditures for the half year were approximately \$1,470,000.00, consisting principally of the cost of new drilling and the installments on the purchase price of the steamships "La Brea" and "Los Angeles." Both these vessels are now in service and their operation is fully up to expectations.

"Current assets on June 30, 1916, approximate \$12,950,000 and are over 8 to 1 of current liabilities. Collections have been well maintained and cash balances approximate \$1,850,000. The excess of current assets over current liabilities on June 30 1916 is approximately \$11,450,000.

"Current liabilities on June 30 1916, approximate \$1,500,000, of which \$200,000 represents unsecured six months 4 per cent bills payable. All sinking fund installments due and payable to this date have been met, including 150 Union Transportation Company and 350 Producers' Transportation Company bonds. During the half year there has been an increase in first mortgage bonds outstanding of \$656,000, a reduction in bills payable of \$1,000,000, and collateral trust notes \$260,000. Purchase money obligations on June 30, 1916 show an increase of \$418,000 from the commencement of the year consisting of long term notes given on account of purchase of new steamships.

"A dividend of \$1.50 per share has today been declared payable July 20 to stockholders of record July 10, and it is intended in the future to make regular quarterly distribution of dividends should the condition of the company's business and finance so permit."

The method of dissolution of the Union Provident

Company is described in the following letter to the secretary:

"A dividend of \$1.30 per share upon the capital stock of the Union Provident Company will be paid July 20 to stockholders of record July 10.

"At a special meeting of the stockholders of this corporation held at Oleum Saturday, June 24, the preliminary steps were taken for the disincorporation of this company by a vote representing more than two-thirds of the issued and outstanding stock of said corporation.

"At the meeting it was resolved that, 'for the purpose of securing funds requisite for the satisfaction and discharge of claims and demands against this corporation, the board of directors of this corporation be and they are hereby authorized and empowered, in their discretion, either—

"(a) To sell such portion of the shares of the capital stock of Union Oil Company of California owned by this corporation and (or) other assets of this company as shall be necessary therefor; or

"(b) To levy an assessment upon the outstanding capital stock of this company sufficient to raise the necessary funds; or

"(c) To await the receipt by this company of income and (or) dividends on the corporate stocks owned by this company requisite for the purpose.'

"In order to provide for the payment of its debts, which include its estimated proportion of the legal expenses in connection with the current taxes and income tax owing by the corporation, it has been decided to reserve the sum of 20 cents per share out of the dividend of \$1.50 per share received by this corporation from its holdings in the Union Oil Company of California, to cover and provide for its estimated debts as above stated.

"As soon as the debts of the company have been paid, proceedings will be taken at once, under order of the board of directors already passed, to secure the disincorporation of the company and the distribution of its assets to its stockholders."

The United Petroleum Co., has declared a dividend of \$1.50 a share, payable July 20, to stock of record July 10. Commenting on this the secretary says:

"The United Petroleum Company owns 78,857.41 shares of the outstanding stock of the Union Provident Company, and as steps have been taken for the disincorporation of the Union Provident Company, it becomes necessary that the debts of the latter corporation should be paid before disincorporation. Accordingly, 20 cents per share has been reserved and set apart by the Union Provident Company out of the dividend of \$1.50 per share declared by the Union Oil Company of California. Nevertheless this company, out of its surplus earnings, is making up this deficiency and is declaring a dividend at the full rate of \$1.50 per share."

GASOLINE PROCESS SUITS

Suits for infringement of patents in the Burton gasoline process, owned by the Standard Oil Co. of Indiana and the Rittman process, owned by the U. S. Government, may be brought by Dr. Charles S. Palmer of Pittsburg to whom patents have been issued.

It is alleged that Dr. Palmer has prior claims covering certain steps of both processes. There has, however, been no definite decision as to the bringing of the suit, or the amount of damages to be asked.

Oil Competition Slackening

While predictions of 40c gasoline have not been realized and indications are that production is now keeping pace with consumption, the possibility of overproduction and a resultant break in oil prices is not regarded seriously by local petroleum interests. It was pointed out that six months' operations showed that in almost every instance the carriers had delivered more oil than they had received, the figures registering an increase over last year's. In view of this fact and evidence that the demand is being maintained, operators do not fear overproduction.

The prosperity of the petroleum industry is offering the smaller companies an opportunity for development, in the opinion of the trade, while many of the larger concerns are reported to be improving their equipment and enlarging their output. The unprecedented demand, it was said, has created a market for all the oil produced, the consumption being so great that there has been little real competition. Production is being increased through drilling for new wells that could not be worked profitably when prices were lower. Gasoline is now being shipped to this district from refineries in the Middle West in tank cars at a cost of 10c a gallon, whereas only a little more than a year ago the retail price was only a few cents in excess of this charge and such a movement would have been impossible.

The different refining companies have been forced to increase their capacity considerably to meet the demand for gasoline.

The Mexican situation is said to be more nearly normal now, and Mexican oil is becoming a more important factor in the situation, several refineries now handling this crude.

"The oil industry in the United States has developed to a point where to talk of its control by any one company or combination of companies becomes absurd," said an official of a large producing and distributing concern recently. "The dissolution of the Standard Oil Trust has been criticised as being ineffectual and incomplete. That is a matter of which few can talk authoritatively. The former subsidiaries of the Standard Oil have had more experience than most of their competitors and were better equipped at the outset, but the fact that independent companies have been able to prosper since the dissolution is apparent to anybody who knows anything about the business.

"The territory of competing companies is so often overlapping that an advance in price by one concern is usually followed by others, and this gives the appearance of unified control. Take for example, two companies whose distributing equipment covers virtually the same ground. The price is raised by one company and the demand, which the second has to meet, bears so heavily upon its available supply that it, too, is forced to raise its price. If the first advance were not justified it would probably follow that the second company would not move its quotation upward."

A man close in touch with the petroleum industry of the country said that the volume of production and oil in storage controlled by the Standard Oil interests had unquestionably increased since the dissolution of the combination, but that the percentage of control had declined.

At the time of the dissolution, he said, the Standard Oil Co. controlled about 80 per cent of the oil market-

ed in the United States and slightly more than that proportion of oil exported. At present he estimated that the various companies, which were formerly subsidiaries of the trust, controlled no more than 30 per cent of domestic consumption, but still held a larger proportion of export business, due to their better facilities for handling the trade. Other companies are now building tank steamers on a large scale and improving their equipment so that competition in the export business, he said, is likely to become more intense in the next few years.

"There is room for all in the oil fields," said one official. "The demand is steadily growing, and there is reason to believe that this expansion will be curtailed. A temporary lull may come, probably will come and for a time may check progress, but I am confident that the oil industry has not yet seen anything like the demand that will arise in the comparatively near future. Whether the new companies that have entered the business will be able to survive is largely a matter of financing and management."

OIL MARKET REDUCED

General reductions in the price of crude oil, affecting all the markets east of the Rocky Mountains, have been the features of the oil industry for the last ten days of July. Quotations for Pennsylvania crude were lowered ten cents for each district, these oils being the last to feel the effect of the overproduction of the Mid-Continent fields. The new quotations for Pennsylvania are as follows: Pennsylvania \$2.50; Mercer black, Corning and New Castle, \$2; Cabell, \$2.02; Somerset, \$1.85 and Ragland 80 cents. These figures are the same as prevailed between March 6 and 17 last. Since the latter date the market has been unchanged for the Pennsylvania grades.

Mid-Continent oil was reduced ten cents a barrel again on Saturday July 29, bringing the new price down to \$1.35, or 20 cents below the closing quotation of July 23.

Announcement was made July 29, by the Standard Oil Company of Louisiana, of a reduction of five cents a barrel in the price of Caddo heavy and Crichton oils.

On July 28 the price of Canadian crude was cut ten cents a barrel to \$2.03.

The Magnolia Petroleum Co., announces that effective July 31, the prices for Corsicana light, Electra Henrietta Thrall, Strawn and Moran crude petroleum will be \$1.35, and that of Corsicana heavy and Healdton 60 cents. This is a straight cut of ten cents for each oil.

Since the warning given by the Prairie Oil & Gas Co. on July 8, of its inability to purchase all the oil produced in the Kansas fields, followed later by a further reduction in the amount of crude that could be handled by the pipe lines, the producers have been anticipating a cut in prices. The first one came in the Gulf Coast region when fuel oil not under contract, was reduced ten cents a barrel. An equal reduction was given the Mid-Continent crude on July 24, followed by the one on last Saturday of the same amount. All Caddo oils were reduced ten cents a barrel the same day with the exception of Crichton and heavy which had been cut on July 15. Electra, Henrietta, Corsicana light, Healdton, Strawn,

Thrall and Moran dropped ten cents on July 24. A cut for the same amount was made in the quotations for the Central West on July 28, affecting all grades.

The main effect of this general cut in the market will be the checking of field operations. The present production is not so large as a few weeks ago, but the large increase within several months, due to active field work, and the gushers found in several fields, has caused an accumulation in stocks, which act as a bear upon the market. With higher prices for oil well material and a lower market, the operator will begin to curtail work, and this will effect the production very quickly.

PIPE LINE TO SAN PEDRO

Having had its big pier at El Segundo washed out again and again, and attempts to strengthen it by use of a patent method having failed to give security, the Standard has decided to transfer its southern shipping point to San Pedro, some twenty miles. Some months since the company acquired acreage on the waterfront and obtained all necessary permits from the city authorities to build tanks. Now it is laying an eight-inch pipeline, a distance of twenty miles from the El Segundo refinery to its station on San Pedro harbor. This line will be primarily a fuel oil line and is intended to put the Standard in a position to serve the marine trade on equal terms with the General Petroleum and Union, but later, according to reliable information, this line is to be paralleled by others for the transportation of gasoline, kerosene and all pipeable refinery products. When these are all in operation Standard tankers will load here for South America, the Orient and Europe. The El Segundo wharf will be used only for special occasions, as loading on pipeable products.

Hitherto the Standard has been able to deliver oil at San Pedro only by cars, an obviously heavy handicap in competition with the General Petroleum and Union pipelines. As San Pedro is, and always will be, the big shipping port for Los Angeles, it was necessary for the company to remedy this defect in its system. El Segundo has almost nothing that can be called a natural harbor.

OIL PIPE LINES TO BE DOUBLED IN CAPACITY

Improvements totaling \$1,500,000 on the Associated Pipe line between Bakersfield and Mendota, and installation of new equipment on 14 old stations between Mendota and San Francisco, will be completed late in August. The improvement service will double the capacity of the pipe lines, according to the engineer. Instead of running the oil through the rifled 8-inch pipe, with 16 per cent water, hot oil will be forced through the line. It is planned to handle 28,000 barrels of oil daily instead of 14,000, average daily under the present plan.

PREMIUMS OFF IN EAST

In view of last week's advance in California crude oil prices, it is of interest to note that production in distant Eastern fields has increased to such an extent that refineries are no longer obliged to pay high premiums for desirable grades. The premium on oil in the famous Oklahoma Cushing field is disappearing, for it is now down to 20 cents a barrel, the lowest it has been in a long time. Not so long ago, as high as 80 cents a barrel was paid. Premiums in other Eastern fields have been off for some time.

ATOW AROUND THE WORLD

The arrival of the Standard Oil Company (California) Steamer "Richmond" and Barge "S. O. Co. No. 95" in San Francisco on June 30, 1916, marks the completion of new history in ocean towing; also establishing a new record for this branch of our American Merchant Marine.

The S. S. "Richmond" and Barge "S. O. Co. No. 95," with a combined dead weight capacity of 15,000 tons, sailed from San Francisco, oil laden, on February 20, 1915, on a voyage to New York via the Panama Canal. They were next chartered to the Anglo American Oil Company for two trip across the Atlantic, and this charter was extended until seven trips in all were made from New York to London. At the termination of this charter, the tonnage situation was so acute on the Pacific Coast that the Company had to order these vessels back again via the Cape of Good Hope (the Panama Canal being closed to shipping) and made a charter with the Standard Oil Company of New York, for a cargo of oil from New York to Shanghai, China, vessels crossing the Pacific in ballast to San Francisco. The tow was completed without mishap and the "Richmond" and Barge "S. O. Co. 95" are now back again in their Pacific Coast coastwise work.

In 496 days, or the time these vessels were absent from their home port, the "Richmond" has towed Barge "S. O. Co. No. 95" for 75,000 miles, crossing the Atlantic and war zone fourteen times, and on arrival had nothing to do but clean boilers and open up the main machinery for examination.

In the accomplishment of the above, one naturally looks for thrills and unusual happenings, but, strange to relate, nothing of consequence occurred, which testifies to the good construction and sea-going qualities of these vessels, and in the case of the towing steamer, its builders, the Fore River Shipbuilding Company of Quincy, Mass., are to be complimented.

The longest no-stop tow was made between New York and Singapore (where the vessel stopped for bunker oil), distance 14,000 miles, and was accomplished in 62 days, an average of 226 knots per day, or 9.4 knots per hour.

The "Richmond's" log is practically devoid of mishaps. Once only on the Atlantic the 2-inch diameter steel wire hawser parted, but a messenger line was shot across the bow of the barge, and a new steel wire hawser pulled aboard, and in little more than an hour the vessels resumed their voyage.

CANADIAN PACIFIC BOUGHT BY STANDARD

The Standard Oil Company, has brought the Canadian Pacific Property in the old Whittier field and has taken possession. The property adjoins the Standard's Murphy lease, hence will be easily operated in conjunction therewith. It consists of sixty acres, forty owned and twenty leased from the Warner oil company.

The land owned was formerly the Whittier-Fillmore.

There are about twenty wells and a production of about 200 barrels daily. The selling company was composed of Canadian capitalists; W. E. Watson, formerly of Toronto, president and general manager. The wells are mostly shallow, but one or two deep tests uncovered some new production, which, presumably, the Standard will seek to develop.

ECUADOR DEVELOPS OIL FIELDS

Development of the Peruvian oil fields has practically wiped out the American oil trade with Ecuador, and now the latter country is developing a field of its own, and to encourage the work, the production and export of oil and all oil products have been exempted for twenty years from taxation. The result of Peruvian development has been that, whereas, during 1911 imports of American gasoline into Ecuador amounted to 460,325 pounds and those of Peruvian gasoline 893,798 pounds, during 1915 the imports from Peru were 1,745,918 pounds and from the United States but 20,029. The measurement of gasoline by weight is the practice in Ecuador, and all figures are from a report of the American consul at Guayaquil. The kerosene used still comes almost wholly from the United States, and the development of the Ecuadorian wells has put a complete stop to all importation of foreign crude. American oil formerly imported was from California.

At the same time, fuel is rapidly displacing coal in industries. During 1915 the electric light plant and brewery at Guayaquil burned some 25,000 barrels. The Guayaquil & Quito railroad is transforming its locomotives to burn oil. It has been using coal imported from the United States or Europe, costing \$12 per ton at Guayaquil, and with the heavy mountain grades climbed—Guayaquil is at the sea level and Quito 12,000 feet above the sea level—one third of a train is now made up of cars loaded with coal for the locomotive. Now the company figures that one ton of oil is equal to two of coal, and it is delivered at \$10 per ton at Guayaquil, so that the fuel bill will be reduced nearly 60 per cent by these prices alone, to say nothing of the big reduction in the cost of hauling the fuel and the increase of freight hauling capacity. The company has invested \$75,000 in a pumping and storage plant, tanks and tank cars. River steamers and many local factories are planning to use oil fuel in the immediate future. The gas works at Guayaquil have experimented with native petroleum and have extracted 1000 cubic feet of gas from a ton of oil against 300 from a ton of coal. Native oil is to be used exclusively in the near future.

Development of Ecuadorean oils so far has been entirely by native capital and methods, holes ten by ten feet square and ten to fifty feet being sunk to the impermeable sandstone. About 25,000 barrels annually are obtained by seepage. In 1910 a well was sunk 150 feet and another to similar depths in 1913. Both passed through small strata of oil and gas. A third well was sunk to 1,200 feet and was ready for test when funds arrived. The fields are in the immediate vicinity of the port of Santa Elena, connected with Guayaquil by automobile road, and are just across the Peruvian international line, thus forming an extension of the Peruvian fields. The Peruvian wells are about 1000 feet deep.

Efforts, unsuccessful so far, have been made by Ecuadorian land owners to interest American capital. At present there is but one small asphalt refinery in the country, located at Santa Elena. No lighter products are manufactured. Until American capital can be obtained it is unlikely that any extensive refining will be done.

The consul reports that lands in the oil fields are privately owned with title in fee in all cases.

NEW OIL TERRITORY IS OPENED UP

Developments of the past week in the McKittrick and Belridge-Lost Hills oil districts have been of more than usual interest, on account of discovery of petroleum in a section selected for the purpose of test in new territory; the beginning of operations in another part of the North McKittrick front, which extends the field on the south to within three miles of McKittrick; the erection of rigs here and there and drilling of wells, together with plans for much important work to be carried on within the next few months. Never before have activities in the local fields been greater than at present, when the matter of work now in progress and being outlined is considered.

The Standard Oil Co., which some months ago acquired a 20-year lease on property belonging to the McKittrick Oil Co., located in section 6, 30-22, and situated five miles northwest of the city of McKittrick, brought in the first well drilled under the new contract. After encountering some trouble with water, necessitating a recourse to cement the well, at a depth of 1200 feet, yielded an initial production between 50 and 90 barrels of heavy petroleum, the test of which showed 44 gravity. It is believed that within a short time a larger output will justify the expectations of the company and the belief of experienced oil men in different fields as to the future of this area. From the beginning of work by the Standard Oil Co. in Section 6 30-22, keen interest has been displayed in petroleum circles throughout the state on account of the understanding that the drilling thereon was to be in the nature of a thorough test of this portion of the North McKittrick front. As the drill went deeper and deeper speculations increased as to the probable distance it must traverse until oil was struck and the amount and gravity of the fluid, some estimates far exceeding the ultimate depth of the well. Comparatively shallow and with a productive capacity considered quite favorable, the test of this part of the section is regarded as most encouraging.

Immediately following the test attained on section 6, 30-22, the Standard Oil Co. inaugurated the development of property on section 8, 30-22 by erecting a rig and entering upon the task of building two steel tanks, each with a capacity of 55,000 barrels. Section 8, 30-22, lies less than three miles north of McKittrick, and the derrick just completed is but a short distance east of the Producers' Transportation Co.'s station at Olig, and the Olig station of the Standard Oil Co. Drilling of the first well on section 8, 30-22, will be commenced without delay, and this, too, will be watched with much interest as to results wherever oil people congregate.

COMSTOCK CRUDE IS DRILLING DEEP WELL

Drilling ahead in the Comstock Crude No. 1 was started recently after the three-inch string of pipe was run into the well. The hole, which is one of the deepest under course of drilling in the West Side fields, is now one of the most difficult to work on account of the small hole, which must be worked at a depth of more than 4600 feet.

The tools are now going toward the bottom and much gas and some oil are continually coming up through the pipe. The indications are that a good well will soon be struck, as the formation, although much deeper, resembles those passed through on section 4, 11-23, which is about one mile west and from which many great gushers have been struck, among which are the Lake View No. 2 well and the International gusher of the Union Oil Co.

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THE DERRICK'S CREED

The California Derrick has no axe to grind, no company to promote, no stocks to sell, no "interests" to bow to. Not dominated by any company, but faithful to California's Oil Industry.

JUDGE BLEDSOE'S DECISION

In proceedings against oil operators of California the United States Department of Justice selected the most difficult case, and it has won it through the recent decision of Judge Bledsoe, of Los Angeles who was sitting at San Francisco. The grave importance of this decision lies in the fact that it will cover every possible defense in all other suits, for here was a case that was as near perfect for the defendant as it is possible to find.

The McCutcheon claim on Maricopa Flat, seemingly, was without flaw. Yet it appears that they proceeded without law and invested their money under a wrong impression of their rights. From the beginning of their operations government agents practically conceded that they were in the right. This may be considered a negative concession, however, for while they were not told in plain words that they were right they were never molested, and patents were issued to them.

But when a new set of agents ask them by what right they are on government land, it is discovered that there is now law that will give them protection. Their investments are now taken away from them, and they lose all their years of time and industry. These men went on the land just as thousands of other prospectors had done previously. They followed custom in all their actions, and drilled for oil, just as all other men had drilled.

They expended \$18,000, and then, when they ran short of money, they put a keeper in charge of the property and sought more cash. Oil had not been found in paying quantities at that time, but there was a strong flow of gas. They gathered more money together and in February 1910 they renewed their active operations and in the following June brought in a flowing well. In July, just one month later, Congress passed a law sustaining the withdrawal act of President Taft, and in that law, for the first time appears the word "diligent." The new law calls for diligent

work on the property, and it was construed that thru the cessation of work, or because on the date of withdrawal the drill was not actually at work, due diligence had not been had.

This means that no operator is safe who was not actually working on his claim on September 27, 1909. The winning of the suit against the McCutcheons means that the government can win any suit it brings against operators affected by the withdrawal order.

This action on part of the government, and the decision rendered by Judge Bledsoe means that the government is disposed to take advantage of a technicality. There is no question here of naval reserves lands. It is a clear case of a man going on open government lands, under the law, as had been done by all other prospectors, and because on a certain date actual work did not happen to be going on, the claimant must lose. It makes no difference that the operators were "diligently" trying to secure more money to carry on their work, nor the fact that a care taker was in charge and was doing work about the well.

The government had to have its pound of flesh.

There is but one answer to all this. Danger threatens every individual who came under the withdrawal act, and unless more active work is done in Washington ruin will come to many operators. Senator Phelan has done great work for California's Oil Industry, but it does not appear that he has had much support from the other members of the California delegation in Congress.

Is it not time we were hearing something about what the other California senator is doing, and what congressmen are doing? Because Senator Phelan is a Democrat should not be a bar to his activity so far as the Republican members are concerned. There are no politics in this.

OIL IS GOOD SECURITY

The following item from the Mid-Continent Oil News is of interest to both the oil men and bankers.—

"The action of the Federal Reserve bank officials in allowing to crude oil in storage a standing as collateral upon which producers may borrow money at nearly the market value brings home to the oil country the widespread and constantly wider spreading benefits to enterprise which the federal reserve law is capable of bringing.

"Probably nothing else could have happened more pat to the immediate situation than this. There is now an incentive to produce and store oil when the 'marketing concerns' have denied it their market. There never has been this incentive before. In fact heretofore, throughout oil history, stored oil was regarded as hardly more than waste. There was no stored oil except in times and under circumstances which were made to promise absolutely nothing but ruination values. Its very existence spelled price depression. By oil country customs and by the bank customs which followed naturally, it was allowed utterly no standing.

"This progressive law changes all that. It casts the eye of the estimator to the future and sees that the existence of this stored oil is not a mere depressor of values. And by the new action of the board, it is oil. The country as we say above, is reminded by the action of the immense good which that excellent law is to enterprise."

CARNAHAN PROTECTS THE INVESTOR

One of the numerous methods devised by Commissioner of Corporations H. L. Carnahan to afford protection to investors in shares of purely speculative value is illustrated in a permit issued to Imperial Mining & Oil Realization Co. of San Diego.

The company is acquiring undeveloped mining claims in San Diego and Imperial counties. Two of the claims in the former county near the Mexican border are first to be prospected. The Commissioner permits the sale of 300,000 shares at 10c per share, with the limitation that but 50,000 shares shall be sold until the proceeds shall have been expended in development work.

If it can then be shown to the satisfaction of the Commissioner and his engineer that the expenditure of further money is justified by results obtained the sale of the remainder of the shares to develop and equip the property will be permitted.

WEIR TO SECURE STRONGER OIL INTEREST

Andrew Weir, London, multi-millionaire and oil magnate, is in Los Angeles with N. A. McClelland, partner of the Duncan Fox Company, British mercantile and banking firm, and agents of the Union Oil Company in South America, is in the city. The object of the visit is believed to portend another big oil deal.

It is known that the interests which Mr. Weir represents have long been anxious to secure strong foothold in the oil lands of this country, and it will be only a matter of time until they accomplish this. They already have a big interest in the reorganized General Petroleum Company, and a holding of Union Oil stock that runs into several millions. It is believed that they will carry out their original intention of purchasing the remainder of the treasury stock of the Union Oil Company, following the close of the war.

AN IMPORTANT DECISION

An interesting decision has been handed down by the supreme court of West Virginia that will have considerable bearing upon cases of like character in other states.

On June 28, 1904, Harlon P. Locke and his wife gave to R. W. Russell and other a lease upon certain lands in West Virginia. The latter, their heirs and assigns drilled 11 wells that produced oil and a little gas. The lease contained a clause saying that each and every gas well from which the gas is marketed, was to bring in for the owners of the land, the sum of \$500 annually.

After operating the lease for a few years, the owners decided to try out the new process of making casing head gasoline and installed a plant for that purpose. The land owners however refused the sums that lease-holders tended them as due from the sale of the gasoline and demanded \$5,500 as being the amount due under the clause of the lease, saying that the gas was utilized and marketed and therefore they were entitled to the \$500 as specified in the lease for each well. The court held: "A lease was granted to drill for oil and gas, with a provision for a certain rental if gas were obtained and marketed. The evidence was admissible to show that the word gas as used in the lease trade usage meant gas derived from an oil well or gas from a gas well. Gasoline has been shown by the evidence to be a product of oil only and not of gas." The court went then into a lengthy discussion and stated that in short the farmers or landowners had no recourse as the gas was a product of oil wells and not gas wells.

FUTURE OF THE OIL INDUSTRY

How long the oil industry is likely to enjoy its present unprecedented prosperity is a question frequently asked by investors who hesitate to buy oil securities now because of a fear that the era of big earnings and extra dividends is nearing its end. A sudden heavy decrease in consumptive demand or a very large increase in production are the potential factors that have led to this viewpoint.

There are no indications at this time of a material decrease in demand, either foreign or home, and there is no immediate prospect of the development of another Cushing pool. It is well known that foreign demand for gasoline and other petroleum products is greatly in excess of the capacity of available ships to transport it, at least under current ocean rates. Moreover, it is the belief of experienced oil men that this foreign demand will continue unabated until the termination of the war and probably for a long time after hostilities have ceased because of the scarcity of horses and the need of all available motor vehicles in the commerce of the warring nations.

A slight recession in gasoline prices within the last few weeks reflects a less active demand as well as a prospective increase in production through the enlarged refinery capacity, but oil men point out that the supply of gasoline in storage is very much below the quantity usually on hand at this season of the year, and the big summer demand from automobilists is yet to come.

Oil production in the Oklahoma field is showing a large gain, and the report has been heard that another prolific pool may soon be developed. While this report may be true it is significant that one of the largest interests in the oil industry, which virtually dominates, the Oklahoma field, has recently entered into a contract with the Mexican Petroleum Co., whereby the latter will supply the former with a large amount of crude petroleum annually for the next five years.

DOHENY PLANS NEW CALIFORNIA OIL COMPANY

Edward L. Doheny has announced he is forming a new \$5,000,000 company to operate in the Midway, Santa Maria and Fullerton fields. The property was purchased recently for approximately \$2,600,000. The new company probably will be absorbed by the \$150,000,000 Pan-American Petroleum & Transport Co. and the California Petroleum Corporation.

The lands were acquired by Mr. Doheny with the intention of offering them to be operated for the benefit of the two companies. If the directors of the companies unanimously accept the offer of purchase, the stock of the new company will be held equally and jointly for them.

Directors of the companies are now on their way from New York, and a decision will be reached within the next ten days or two weeks.

REPORTED ADVANCE IN OIL

A report from one of the San Joaquin valley oil towns to the effect that member companies of the Independent Producers' Agency operating in the Coal-inga and Kern county fields would get 50 cents a barrel for oil delivered in June and July, was given general credence. Oil marketed in May netted agency members 38 cents a barrel.

GOVERNMENT WINS McCUTCHEON SUIT

The United States Government was given the title to 160 acres of rich oil land in Kern County in a decision recently in this city by United States District Judge Benjamin F. Bledsoe of Los Angeles in a suit by the government against a number of oil companies. The suit is one of the many begun by the Government in the last three years and is known as "Obispo Oil Company" suit.

Just as soon as the decree in the case is drawn up attorneys for the defendant oil companies will take an appeal from Judge Bledsoe's decision to the United States Circuit Court of Appeals.

Judge Bledsoe's opinion is along the same lines as that of United States District Judge, Robert S. Bean, of Portland last May. Judge Bean decided the suit known as the "Midway Northern Company" in favor of the government.

Both the Obispo and Midway Northern suits were based by the Government on the allegation that the lands in question still belonged to the government, in as much as no oil had been discovered on them prior to President Taft's withdrawal order of September 27, 1909.

The land in the suit decided recently is right in the heart of the oil region on Mariposa Flat in the gusher territory. More than \$1,000,000 has been spent in development and the property is valued at \$10,000,000. An immense amount of oil has been removed.

By Judge Bledsoe's decision, the title to the land is in the Government. Judge Bledsoe decided that as trespassers the oil companies must compensate the Government to the amount of the value of the oil that has been taken out of the ground. A special master, to be appointed later, will determine the amount to be paid to the government.

Judge Bledsoe decided the location of the land by G. W. McCutcheon in 1900 was valid, but that there had been no discovery of oil prior to the date of the withdrawal order. Petroleum gas found he holds to have been of negligible quantity, and not to constitute a "discovery." Judge Bledsoe also holds the evidence did not show the work of exploration was not being prosecuted with diligence at the date of the withdrawal order.

There are about forty-four defendants in the suit in addition to the Obispo Oil Company.

An appeal will be taken to the United States Supreme Court from the decision of Judge Bledsoe awarding the government title to oil lands near Maricopa, in this county, located by McCutcheon brothers in 1900. The McCutcheons claim that they had expended \$18,000 before the Taft withdrawal in 1909, and that work of development was temporarily checked through lack of funds, which they were endeavoring to raise when the withdrawal order was issued.

AN UNEXPECTED FIND

In its well eight miles northwest of the Belridge operations, the Union has discovered what appears to be a good find. The hole was drilled to 3560 feet when it went into salt water, but as it stood full of oil during the last 3000 feet of drilling, it will now be cemented and tested. A blow-out took place when the salt water was entered.

As oil was not expected above 4200 feet, calculations have been somewhat upset, but the chances are that the hole will be sent down to depth regardless of what the first test shows.

BIG DEMAND FOR CALIFORNIA OIL

In the report of the statistical bureau of the Independent Oil Producers' Agency, an increased demand and decreased production of California oil during the month of June is shown.

The figures include all ten districts and cover all statistics relative to the shipments, shortage, production and development in the state. Included in the report are figures for the entire first six months of the year.

Production during the month of June fell off 81,048 barrels compared with the output of May. The shipments during the month of June amounted to 8,512,641 barrels compared with 8,829,250 for May.

The daily production during the first half of 1916 was 240,243 barrels compared with 246,861 in the same period of 1915 and 289,409 in the first half of 1914.

A sharp increase in shipments is seen. In the first half of 1915 the daily average was 239,703 barrels while in the corresponding period of this year the daily shipments amounted to 267,325 barrels.

MINING BUREAU DOES GOOD WORK

The shooting of wells with dynamite, which the State Mining Bureau has recommended as an experiment with a view of increasing production from the shale in the Santa Maria field, is giving encouraging results on the Western Union property where well No. 41 was shot. Strings of torpedoes fifty feet long and carrying three hundred pounds of gelatin were used. Six such shots were set off. The well was dry before shooting and during the subsequent cleaning out and intermittent pumping is said to have produced from fifty to seventy-five barrels of oil per day. It is planned to try the experiment at several other wells. The Santa Maria field is one of the very few in California where the ground stands up well enough to require or even permit shooting.

Recent deepening of a well situated in the southwestern portion of the old Santa Maria field has proved the productiveness of the third sand, several thousand barrels per day of 24 gravity oil being obtained. The geological investigations made by the Bureau indicate a strong possibility that neighboring properties may also be made more productive if developed in accordance with the facts brought out by such study.

An indication of the opinion held among small oil operators, of the value of the protection afforded them by the work of the State Mining Bureau, is shown by the fact that eighty-three had paid their assessments amounting to \$4,560.00 on July 3d. This was the first day the payments became due and some six weeks before delinquency.

GERMAN BRANCH OF STANDARD OIL PROSPERS

The Daily Mail of London stated recently that the German-American Petroleum Co., which is the German branch of the Standard Oil Co., announces it has overcome the British blockade effectively enough to pay a 20 per cent dividend, as against 22½ per cent in 1914-1915. It has drawn upon its Galician and Roumanian wells for oil formerly imported from the United States.

GASOLINE LOWER IN WYOMING

Gasoline, tank basis, has been reduced here 2 cents a gallon to 26 cents. Price at Laramie and Caspar is 30 cents and at Sheridan 35 cents.

Garrigues Takes Another Shot

The Union Oil Stockholders' Protective Association has sent the following communication to the stockholders of the Union Oil Company of California, the Union Provident Company, and the United Petroleum Company.

"The Protective Committee respectfully submits the following for your information and consideration:

"The adjourned annual meeting of the stockholders of the Union Oil Company was held at Oleum on the 15th instant and was again adjourned for lack of a quorum until October 20th, 1916. A member of this Committee was present in the interest of the stockholders.

"By resolution of the Directors of the Union Provident Company, a meeting of stockholders of that Company will be held at Oleum on the 24th instant, to take steps to dissolve the Company. We will have a representative present and will advise stockholders of the action taken. We are not opposing the dissolution of the Union Provident Company, but we are resisting the attempt which is being made to secure from the Union Provident stockholders a general proxy delegating to the 'Stewart Proxy Committee' for the year 1916 the control of Union Provident stock, or its equivalent in Union Oil stock in case of dissolution.

"Do not execute this proxy unless you eliminate the objectionable features.

"We are advised by counsel that the trustee plan as proposed is illegal, and as outlined in our circular letter of the 7th instant, urge you to keep out of it. The 'memorandum for trusteeing stock' sent out by the Earl-Stewart Committee, provided that the final date for depositing stock would be June 1st, 1916, but by reason of the fact that the trusteeing plan had not been supported and a sufficient amount of stock secured, stockholders have been asked to extend the time 'to a date not later than August 1st, 1916.' Obviously if the necessary stock was in hand they would not have asked for an extension of time. If you have not signed up your shares don't do it. If you have, withdraw your consent. Notify the committee, and don't deposit your stock. The Los Angeles Stock Exchange has taken official cognizance of the proposed plan, and have decided that stock in the voting trust will have a different market value than the free stock. This is the view of financiers generally. Don't impair the value of yours. Stock not tied up in the proposed voting trust will be more readily marketable and at a higher value.

"There is every reason to believe that the outlook for the future is the brightest in the history of this great company. The physical values of the Union Oil properties are greater than anyone has generally believed, and we unhesitatingly recommend stockholders to retain their holdings. The earnings for the last quarter have been very large, and are increasing monthly, and with the present stable prices of crude and manufactured products, if the Company is properly managed and the control kept out of predatory hands, large dividends should be realized.

"The Union Oil Stockholders' Protective Association is carrying on the present litigation in the interest of all of the stockholders of the three companies, and will resist every attempt made by the minority control to withhold from the stockholders their inalienable

right to direct the management of the Union Oil Company of California. The importance of this litigation will at once be apparent to every stockholder when it is realized that the case has now been before the Court for a period of ten weeks, and many witnesses have still to be examined.

"The Protective Committee has undertaken to see that the interests of the stockholders are safeguarded, and urge that no action be taken on the request of the Committee Union Oil Company of California Stockholders, which is an Earl-Stewart committee, or the Stewart Proxy Committee, without first understanding their motives. It is our sincere belief that the affairs of the Union Oil Company should be in the unhampered hands of the stockholders, rather than under the control of a small minority who have dominated by a system of pyramidal control, and now seek to continue that control by an equally iniquitous voting trust. The Protective Committee is not actuated by selfish motives or a desire for office. It has been its honest endeavor to throw light on the internal government of the Union Oil Company, and we, respectively urge stockholders to withhold their support from the "interests" that are asking to be retained in control, and thus permitted to perpetuate past pernicious policies.

"At the conclusion of the suit the Protective Committee will send stockholders a copy of the judgment of the court, upon which to base their individual conclusions, and in meantime will be glad to answer questions and welcome suggestions from stockholders."

MORE INTEREST IN OIL STOCKS

Stocks of producing oil companies have attracted a great deal of attention in the security market during the past month. Throughout the entire country there is an increasing interest shown in oil securities, due, it is thought, to the fact that a large number of the big producing concerns have recently increased their rates of dividends. Inasmuch as California is the greatest oil producing state in the Union, the bullishness of the oil stocks in the New York market has been felt here.

The high prices the leading oil securities have commanded the past month can be attributed to a number of causes, all of them perfectly reasonable and natural in themselves, and not the offspring of manipulation or speculative fluctuation. Among these causes the most powerful, no doubt, is the fact that the supply of crude petroleum is below the needs of the country.

OIL COMPANY'S DIRECTORS TAKE UP BONDS

According to a statement recently sent to its stockholders by the Olinda Land Co. the corporation produced by its own wells over 33,000 barrels of oil in the three months of April, May and June. The total amount earned during the second quarter of 1916 was \$24,936.69 and the amount of cash on hand July 1 aggregated over \$4500, while there was over \$7,500 owed the company from various sources. Instead of paying the July dividend, the board of directors deemed it advisable to take up five of the company's bonds, which mature June 1, 1917.

OIL AND GAS IN NORTH-CENTRAL MONTANA

The search for oil and gas in Montana has become very active, and there is an insistent demand for information concerning the occurrence of these substances in the state. The extension into Montana of the fields that are producing high-grade oil in Wyoming, the development of valuable gas fields in southern Alberta, the discovery of some oil within a few score miles of the northern boundary of Montana, and, finally, the recent drilling in of a large gas well at Havre, in Hill County, have led petroleum engineers and operators to give serious attention to "wild-cattin'" in this State. Rocks of the same age as those which are productive in Wyoming and in Alberta are known to be present over large areas in Montana, and there is every reason to believe that where the structure is favorable they will yield oil and gas. A report on the possibilities of oil in this region has recently been prepared by Eugene Stebinger, of the United States Geological Survey, Department of the Interior, and published as Bulletin 641-c. In his report Mr. Stebinger summarizes all the available data concerning the possible occurrence of oil and gas in a considerable area in the north-central part of Montana, from the latitude of Great Falls northward to the international boundary. He discusses briefly the general geology of the region, names the rocks in which oil and gas are likely to be found, and tells how the several formations may be recognized both at the surface and in drilling. The Havre gas field is described in detail, and the probable extension of the field. Areas in Hill, Chouteau, Blaine, and Fergus counties, where the structure is similar to that at Havre, and other areas whose structure is believed to give promise of oil and gas production are discussed in detail. Most of the localities named have not yet been tested by the drill.

This report is one which every operator in Montana should read with care. A copy can be obtained free from the Director of the United States Geological Survey, Washington, D. C.

CALIFORNIA HEADS LIST IN PETROLEUM

The quantity of petroleum marketed in the United States during the first half year of 1916 is estimated by John D. Northrop of the United States Geological Survey at 140,000,000 barrels. His estimate is moderate and his apportionment of the output among the major fields is as follows: Appalachian, 11,400,000 barrels; Lima-India, 1,800,000; Illinois, 7,900,000; Kansas and Oklahoma, 50,500,000; Northern and Central Texas, 4,200,000; Northwest Louisiana, 6,800,000; Gulf Coast, 11,400,000; Wyoming and Montana, 2,400,000; California, 43,500,000, miscellaneous (Colorado, Michigan, Missouri), 100,000; total, 140,000,000.

This quantity, which includes a little oil actually produced in 1915 but marketed during 1916, is appreciably less than the output during the first half of 1915, though it is greater by about 5,000,000 barrels than one-half the entire quantity marketed last year. When it is considered that the first half of 1915 includes the period of maximum production of the Cushing pool in Oklahoma and the Crichton pool in Northwestern Louisiana, the disparity in output between the corresponding periods is not especially significant.

The outstanding feature of the petroleum industry during the half year just closed was the high level reached in the prices of crude oil in March and maintained firmly to the end of that period.

OIL AND GAS IN MISSISSIPPI

The existence of rock structure favorable for the occurrence of oil and gas pools in the vicinity of Vicksburg, Miss., and farther east has been known for a number of years, and additional information on the subject is now furnished in a brief report by O. B. Hopkins, resulting from field investigations by Messrs. Matson, Hopkins and Finch, of the United States Geological Survey, Department of the Interior. The character and thickness of the rock formations underlying the region are not definitely known, but it is stated that most of the oil and gas formations of northwestern Louisiana are represented in the Vicksburg-Jackson region; the character of the material that composed them can not, however, be foretold in advance of drilling.

Although the Geological Survey makes no prediction as to the results of drilling in the area, it points out places where the structure is most favorable for the accumulation of oil and gas, provided, of course, that they are present in the Vicksburg-Jackson region.

A copy of this report, Bulletin 641-D, Structure of the Vicksburg-Jackson area, Mississippi, may be obtained free on application to the Director, U. S. Geological Survey, Washington, D. C.

TWO NEW GUSHERS BROUGHT IN

News was received from McKittrick that the Union Oil Co., in its operations close to Camp No. 2, in the Belridge field, eight miles northwest of the Belridge main camp, has been rewarded with a flowing well. The well, 3400 feet in depth, flowed some time before it could be controlled. Indications point to a good production.

A flowing well has been brought in by the Belridge Oil Co.

The Berry & Keller Oil Co., which operates one of the most active leases in the north end of the McKittrick field, is completing arrangements for drilling four new wells, in addition to one new well upon which work will be commenced this week.

The Jackson Oil Co. has completed and perforated well No. 7 on its McKittrick district lease, where the other half dozen wells are making a good record. No. 7 is 1210 feet in depth, and owing to the success attending the others it is considered more than likely that the latest venture will add a material increase to the figures of production.

CALIFORNIA PETROLEUM

Total current assets of California Petroleum Corporation on May 31 last were \$1,325,358. Total current liabilities were \$139,428. Excess of current assets over current liabilities amounted to \$1,185,930.

In addition the company has unused bank lines to the extent of \$1,000,000 with three of the most prominent banks in New York city and one in Los Angeles, Cal.

Current assets of the company consist of cash in banks \$256,346; accounts receivable, \$151,199, notes receivable, \$112,643; oil inventories, \$469,463; other inventories, \$335,708; total, \$1,325,358.

The crude oil was inventoried at 35 cents a barrel and the refined at \$1 a barrel. At present the company is getting over 39 cents a barrel for crude and \$2.70 a barrel for refined. Recent improvement in the refined market has been sharp and earnings in the next several months are due to show considerable increase.

Entire current liabilities of \$139,428 consist of accounts payable, \$92,259, and accrued interest, \$47,169.

COALINGA NEWS NOTES

The Associated Oil Co., on section 8, 21-15, will soon start up development work, according to reports. Some eight locations have been made upon this property. The company has one good well just north of the wagon road that is making about 60 barrels per day. The oil is clear and free from water. The Kern Trading & Oil Co. drilled a well on section 7, 21-15, just north of the Associated well. The derrick which was blown down last January, has not been rebuilt. This well has had several flows of oil during the last few months. The Boychester Oil Co. drilled a hole on the north line of section 18, 21-15, had a showing of oil and work was suspended on account of casing troubles. The Best Yet Oil Co., on lot 7, section 18, 21-15, drilled a hole to 3804 feet with 10 inch casing. The work was suspended on account of finances. At the present time the possibilities of the oil land lying south of Coalinga are again receiving the attention of oil men, and the near future promises to develop some activity in the South Coalinga field.

The Kaweah Oil Co., on the southwest quarter of section 30, 21-16, with offices in Visalia, is reported to have reorganized. The company has decided to resume operations soon. This property has been shut down for about 3 years. A well was drilled to about 33000 feet, two or three oil sands were passed through.

The Coalinga National Oil Co., on section 8, 20-15, is building a heavy 114-foot combination rotary standard rig. Captain John Barneson of the General Petroleum, owns the controlling interest in the Coalinga National. The former water troubles on this property is reported as having been successfully handled.

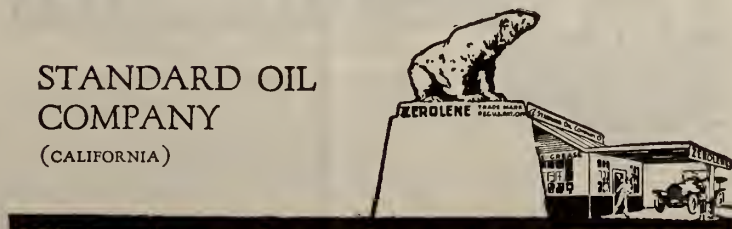
The Imperial Oil Co., on section 2, 19-15, has completed its combination rotary standard rig. The rotary men are rigging up and expect to spud in next week.

The Lakeport Oil Co., on section 18, 20-15, landed its 12½-inch casing last week at 1500 feet, the 10 inch casing is being set in. The oil sand will be entered at about 2350 feet.

An Appeal to Reason

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ALCOHOL AS A SUBSTITUTE

A daily newspaper of Lyons, France (Le Progres), says:

With the cessation of imports of gasoline into Germany the supplies of petroleum drawn from wells in Galicia proved inadequate for the needs of the Central States. The German Government instructed the technical department of the transportation service to seek a combustible that would effectively replace gasoline. The outcome of these experiments was the employment of a mixture of alcohol and benzol. A Mercedes car of the 1914 touring model, having an ordinary carburetor, was used for experimenting purposes with the following results:

Alcohol-benzol mixture, parts	Speed per hr. Miles	Dist. covered miles
1 benzol, 1alcohol	42.....	4.66
1 benzol, 2 alcohol	41.....	4.47
1 benzol, 3 alcohol	39.....	4.34
1 benzol, 4 alcohol	38.....	4.10
1 benzol, 5 alcohol	36.....	3.72
Benzol, pure	42.....	3.79
Gasoline, pure	44.....	3.60

*On one pint of fuel.

Even if the alcohol be figured at before-the-war prices the use of such a mixture is an economy. One pint of gasoline costs 8.55c, benzol 8.17c and alcohol 7.79c.

There remained however, a serious drawback in connection with this mixture, and that was the difficulty in starting the motor. This was overcome by installing on each car a small supplementary reservoir containing gasoline, benzine or ether, which is drawn upon when starting the car, and the alcohol-benzol fuel then substituted.

Germany now makes current use of this mixture, which is readily manufactured by distilling beets and coal tar, both of which products abound in that country.

EXPERT TO ERECT OIL REFINERY

P. A. L. Englebrecht, superintendent of construction at the Martinez refinery of the Shell Co., leaves in a few weeks for Oklahoma, where he will have charge of the construction of another refinery. J. M. Wadsworth, chief engineer at the refinery, leaves next week for San Francisco, where he will be stationed in the head office.

GULF OIL DISTRICT HAS INCREASE

Discovery of new wells last year increased the production of crude oil in the Gulf field 57 per cent over 1914, the geological survey has announced. A total of 20,757,030 barrels was marketed, a gain of 7,459,000 barrels. The Texas yield increased 65 per cent and that of Louisiana division 24 per cent. About 900 wells were drilled in the coastal pools during the year.

Illinois showed a falling off of 13 per cent in 1915 production, and Colorado a loss of 6 per cent.

BERRY - KELLER WILL BEGIN DEVELOPMENT

The Berry & Keller Oil Company, which operates one of the most active leases in the north end of the Mc Kittrick field, is completing arrangements for drilling four new wells, in addition to one new well upon which work will be commenced soon. The company has removed the rig from No. 3 to another location, and on this the drillers will be busy within the next day or two. The activity on the other four wells will follow the completion of No. 3. There are more than 20 wells on the Berry and Keller property, and the production is large. The storage capacity is large, and a water well recently brought in furnishes a plentiful supply for operating and other purposes.

A DEEP TEST IN THE SAN JOAQUIN

According to a late number of the Fresno Republican, a well shaft on lands of the San Joaquin Valley Land company, near San Joaquin, has now been sunk 2300 feet in search of oil. This information was brought to Fresno by Percy Van Etton of Palo Alto, the engineer in charge of the prospect well. He said that a big quantity of gas had been encountered, indicating that a flow of oil may be tapped at almost any time. The shaft will be sunk to a depth of 5000 feet in quest of oil if the strike is not made within a shorter distance.

PETROLEUM BREAKS ALL RECORDS IN 1915

The quantity of petroleum marketed in the United States in 1915 amounted to 281,104,104 barrels, valued at \$179,462,890. More crude petroleum was marketed in the United States in 1915 than in any previous year in the history of the industry—nearly 6 per cent increase over that credited to 1914, and about 5 per cent in excess of the estimated total made public by the Geological Survey on January 1. The average price received at the well for this output was 64 cents a barrel.



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California Concentrates

Organization of the Gila Development Co., at Ray, Arizona, is now complete and active operations on the Cane Springs group of gold claims will be under way within 30 days. Plans for a 30 ton mill on the property are already under consideration.

The El Paso Oil & Development Co., El Paso and Phoenix, Ariz., has incorporated \$15,000. H. R. Gamble, L. H. Vandewerf, John P. O'Neil, N. D. Sines, Jess Jeffres, all of El Paso.

The Associated Oil Co., on section 8, 21-15 Coalinga will soon start up development work.

The Keweenaw Oil Co., on the southwest corner of section 30, 21-16, near Coalinga, with offices in Visalia, is reported to have reorganized.

Producers Oil Co., a subsidiary of the Texas Co., has declared a 200 p. c. dividend, amounting to \$6,000,000. With this payment, all of which goes to the Texas Co., the latter will show for the year ended June 30, net of between \$11,000,000 and \$14,000,000, or 30 p. c. to 40 p. c. on the \$37,000,000 stock outstanding.

The Potter Oil Co., on section 15, 31-22 in the North Midway, is now completing a string of ten wells upon which it started operations some time ago. The No. 21 is now being drilled, it being the last in the drilling schedule arranged by the Eastern capitalists who own the lease.

The Associated Oil Co., one of the most active in the Lost Hills district, where it has many wells and is rapidly extending development, is now drilling what is probably the deepest well in the region. The hole is in section 17, and the present depth is reported to exceed 4900 feet.

The Kern Trading & Oil Co., on section 1, 20-15, brought in a well on location No. 1 last week. The well is making 1050 barrels per day. The Oil is 29.7 gravity and is flowing through a 7-8 "bean" into a large trough. The well was finished up at 3816 feet with 8 1/4 inch casing.

Keeping in line with all the other sections of the oil fields, Santa Maria and its adjacent fields are showing an increased activity of late, according to H. E. Colum, a deputy under Supt. McLaughlin in the gas and water department of the State Mining Bureau. The Standard is starting several new wells, and is otherwise arranging to extend its activities as rapidly as possible.

The Union Oil Co., has abandoned its San Juan No. 4, Fullerton, located at a point about half a mile north of the Standard's Coyotes No. 1 lease. A depth of 4628 feet was reached with a sign of oil.

The Lakeport Petroleum Company, has been permitted by the State Corporation Commissioners to issue 401.21 shares to W. F. Chandler and H. H. Welsh in exchange for a lease and equipment, 42.58 shares to the same parties in exchange for 85,160 shares of the capital stock of the Fearon Oil Company, and to sell its remaining shares at par, \$100 per share, net to the company.

The California Kern Petroleum Co., Las Vegas, Nev., has incorporated; \$100,000. J. J. Kiley, Bakersfield; J. J. Hurlbert, Los Angeles; S. C. Schafer, Los Angeles, and Dr. R. W. Warren, Las Vegas, Nev. Wells will be sunk. The company owns valuable oil lands covering about 11,000 acres of land adjoining the Kern river oil field in California.

Sunbeam Oil Co., Los Angeles, has incorporated; \$100,000. R. B. Blodget, Isaac Milbank, Nicholas Milbank, Luther H. Green and Stuart O'Melveny.

East Puente Annex Oil Co., San Diego, has incorporated; \$100,000. G. P. Harrison, Frederic W. Stearns, L. A. Blochman, E. A. Fano, A. L. Ellis, J. Roberts and Rufus Jackson.

Josephine Oil Co., Los Angeles, has incorporated; \$25,000. J. M. Kent, C. F. Whittier, E. A. Tano, Joe Digen and J. S. Wallace.

The Warren Oil Company, Los Angeles, has incorporated; \$5,000; R. G. Parker, Chas. H. Weigand and Julian W. Schwab.

Hondo Oil Co., Los Angeles, has incorporated; \$100,000. M. H. Whittier, G. G. Whittier, L. H. Westbrook, F. B. Sutton and J. P. Aucherback.

The New Mexican Petroleum and Gas Development Company leased 560,000 acres of state land in Chaves, Torrance, San Miguel, Lincoln and Santa Fe counties for ore exploration purposes. Twenty wells must be drilled within two years. The company is headed by H. M. Bylesby, of Chicago.

Drilling was commenced on the No. 31 well of the Ethel D. lease, on section 36, 12-24. The new well is the third new hole to be started since the first of the year. The Ethel D. Co has finished drilling the other two wells and has them on the production list.

The No. 8 well of the Interstate Oil Co., on section 4, 11-23, near Maricopa, has been put down to a depth of 900 feet with a rotary. The well is one of the several new holes being drilled by the company to increase its production on account of the recent increase in the price of fuel oil. Good time is being made in the drilling so far, and the well is expected to be finished within a month.

Another new well was started by the Sunset Monarch Oil Co., when the No 27 well on Section 2, was spudded in, near Maricopa. The new well is one of several new holes which will be drilled on the properties of the Sunset Monarch Co. in the near future.

The No. 25 well of the M. J. & M. & M. Cons. on section 35, 12-24, near Maricopa, spudded in and drilling is now progressing. The new well will be drilled to the first producing sand, from which the company already has many producing wells, and will probably be finished at a depth of around 1300 feet.

The Union Oil Co.'s new well on the International lease, section 4, 11-22, Maricopa, continues to flow more than 3000 barrels per day, with no signs of a decline. Production of two wells on the lease now totals 4500.

REPORT ON OIL SITUATION

The report of the Federal Trade Commission in the gasoline investigation has been concluded and the final draft of the report has been drawn up. It was submitted by Commissioner Harris to the full commission. It is expected that the report will be sent to Congress shortly after August 1. It will censure some of the companies for alleged failure to compete with each other, and there will probably be a recommendation for additional legislation. The Department of Justice has no present intimation of beginning any suits.

UNION OIL COMPANY

The intention of the Union Oil Company is to make regular distribution of dividends hereafter, if the condition of the company's finances permit. This was made known in a letter sent to stockholders advising them of the declaration of a dividend of \$1.50 a share, payable the 20th inst., to stock of record the 10th inst., and also detailing the profits, production etc., of the company for the six months ended June 30, 1916.

"Profits earned from all operations after deducting general expense, taxes and interest charges, were approximately \$4,350,000, an increase of \$2,174,000, over the corresponding period last year, and equivalent to 25 per cent per annum on the issued capital stock," declares the statement in speaking of the half year's record.

"The net profit, after making provision for depreciation, was approximately \$3,150,000, an increase of \$1,890,000 over the same period in 1915, and equivalent to 18½ per cent per annum on the issued capital stock. Our principal subsidiary companies, Producers' Transportation, Union Tool and Southern California Iron & Steel, show satisfactory earnings for the half year. Production of the company and controlled companies for the half year was 3,114,000 net barrels, an increase over the half year ending June 30, 1915, of 559,000 barrels. During the past few weeks three wells were brought in with a combined daily production of 10,000 barrels of refining oil."

In connection with the letter to Union Oil holders, separate letters were sent out to stockholders of the Union Provident and United Petroleum holding companies, drawing particular attention to the disincorporation of the Union Provident Co., and its effect.

To provide for the payment of its debts and its estimated proportion of legal expenses in connection with the suit brought against the Provident corporation by E. B. Blinn, et al., and also current taxes and income tax owned by the corporation it has been decided to reserve a sum of 20 cents per share out of the dividend of \$1.50 per share received by Provident from its holdings in the Union Oil Co., the letter to the holders of Provident Co. advises. Consequently the dividend of this concern is at the rate of \$1.30 a share. United Petroleum dividend is at the rate of \$1.50 a share. Both are payable at the same time as the Union Oil Dividend.

STANDARD OIL COMPRESSOR PLANT

Indications are that the compressor plant of the Standard Oil Co., being erected on the McNee lease, on section 36, 31-23, will be one of the largest in the state. An order has been placed with a machinery company of Los Angeles for five 600 horse power gas engines. These will furnish power by direct drive to the compressors. The cost of the engines and compressors is estimated at more than \$100,000. When installed, this plant will have a capacity of 12,000,000 cubic feet of gas daily, or nearly one-half enough to supply all Los Angeles. The Standard now has 33 wells on this property, the greater number of which are flowing much oil and wet gas. The gas is to be compressed and the gasoline removed. This gasoline instead of being marketed, as is the usual case with smaller companies, is to be run through the lines with the high gravity oil to Richmond, where it is to be refined.

GENERAL PETROLEUM COMPANY

Los Angeles reports as follows: There have been deposited under the reorganization plan \$18,913,200 General Petroleum Co. securities, out of \$19,232,000 outstanding, leaving undeposited \$318,800. Out of \$10,540,300 free bonds, which includes \$6,000,000 collateral bonds, \$10,259,000 have been deposited, leaving undeposited \$281,000. Out of \$8,691,700 interim certificates, \$8,654,200 have been deposited, leaving undeposited \$37,500. Of the latter, \$35,000 are coming in and the remaining belong to an estate which is now trying to get under the judicial authority to deposit under the plan.

Thus, there is good reason to believe that 100 per cent of interim certificates will finally be deposited. This is almost unprecedented in a reorganization plan involving an issue of this size.

With the probability that the undeposited securities will finally be reduced below \$300,000, the minority interests can be bought out for less than \$30,000 cash, which would be their pro rata under the foreclosure price.

Frank P. Anderson addressed the following letter to Andrew Weir:

"As chairman of the protective committees of holders of bonds and interim deposit certificates of the General Petroleum Co., I have given much time and attention to investigating the relations between you and that company, and it gives me great pleasure to be able to say unreservedly, as I do, that in my opinion you have kept and performed all of your contracts with that company and its stockholders and bondholders to the letter, and have voluntarily, during the last three years, made advances to the company which were never contemplated by the contract."

MEXICAN PETROLEUM COMPANY

An interest identified with the Mexican Petroleum Company comments on the Mexican oil situation as follows:

"In the last four years of almost constant disturbance in Mexico, the Mexican Petroleum Company, employing about 3500 Mexicans has lost only a few days of work. No damage of consequence has been done to any of its properties during all of that time. Its Mexican employees have been proven loyal to the company, and none of the revolutionary parties has exhibited a disposition to damage any of its property. With this record established, it is only reasonable to expect that in the present difficulties in Mexico the properties of the company will be respected by all factions as they have been in the past."

American employees of Mexican Petroleum Co. are remaining in charge of its properties, both at Tampico and in the oil fields. These men are "standing by" awaiting further developments. H. L. Dohency's private yacht has arrived at Aransas Pass with ninety-four refugees aboard from Tampico including some of the employees of the company.

Tampico, however, remains quiet, and so far there have been no threatening demonstrations, according to advice reaching the company here. Three United States gunboats are stationed in the Panuco river at Tampico, ready for emergency, and it is believed that the property interests of the Mexican Petroleum Company, as well as of other American companies in the city, will be adequately protected in case of trouble.

GOOD EARNINGS OF ASSOCIATED OIL CO.

The report of the Associated Oil Company for the six months ended June 30, 1916, shows about 4¼ per cent earned on the stock, or at the annual rate of 8½ per cent. The income account follows:

Business earnings after deducting operating, maintenance and transportation expenses, \$3,304,150.26. Less: Taxes, \$90,237.02; interest on bonds, \$311,695.55; other items, \$28,402.80; leaves a net income of \$2,873,814.89. Reserved for depreciation, 1,141,506.05; reserved for amortization of discount on bonds sold, \$38,860.32. This leaves a surplus to profit and loss of \$1,693,448.52. Dividends paid, \$795,147.04, leaving a balance of \$898,301.48.

Concerning the financial status of the company, President William Sproule says:

"During the six months the outstanding bonded debt was reduced \$959,000 through contributions to the sinking fund and by direct purchases, and \$1,303,124.24 was expended in drilling and other improvement of the property.

"The current assets on June 30, 1916, exceed current liabilities by \$5,518,631.24, of which \$2,020,070.99 is cash. The prospects of the company continue favorable."

STANDARD PURCHASES M. J. & M. & M. LEASE

The Standard Oil Co., has taken over the property of the M. J. & M. & M. Consolidated, on section 36, 12-24, near Maricopa, and will henceforth operate the lease. The deal is one of the largest transactions in oil properties put through in years in this district, and will give the Standard Oil Co. control of one of the best pieces of patented land in the Sunset field.

The deal giving the Standard control of the land was consummated at Oakland, where the principle officers of the M. J. & M. & M. make their homes. It gives the Standard Oil Co. a lease on a royalty basis on the 80 acres of the M. J. & M. & M. and 40 acres of the old Wellman lease, both about one mile from Maricopa. The properties are highly developed and have a large production at this time. On the M. J. & M. & M. lease there are 14 producing wells, and 4 idle holes, and on the Wellman property there are 12 producing wells and 4 idle ones.

By taking over the M. J. & M. & M. lease the Standard now has two of the best properties near Maricopa, the other being the Monte Cristo lease which was purchased several months ago.

SANTA FE SPEEDS UP WORK

The Santa Fe Railroad Company is speeding up development work on its Olinda section property in the Fullerton field. The two wells, Nos. 24 and 26, are being redrilled and deepened, and drilling of new well No. 41 is already under way. Locations have been made for two more new wells, on which work will commence as soon as possible. The company's Fullerton property was formerly owned by the Petroleum Development Company, a Doheny corporation.

The Santa Fe system gets fuel for its Southern California lines from the Fullerton field, the lines north and east of Mojave being supplied from the Midway district. Besides being used for locomotive fuel, the Fullerton oil is topped and enters into the refined grade, the tops being purchased by the Richfield Company. Gas from the wells is treated for gasoline. The company formerly followed the wasteful plan of burning most of the oil in its crude state.

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OIL SHIPMENTS FROM TAMPICO

According to a special letter to the New York Evening Post, oil exportations from Tampico and from the ocean loading racks just outside the harbor of Tuxpam, 120 miles south of here, continue with a regularity that gives no indication that the industry is in any danger from bandits or any other hostile force.

"A sufficient number of Americans still remain here to attend to the shipping requirements of the oil interests," says the letter. "The wells, the pipe lines, the pumping stations, and various other property belonging to Americans are in direct charge of trustworthy Mexicans, pending a betterment of the situation.

"In Tampico the large refineries of the Pierce Oil Corporation, the Mexican Petroleum Co. and the Standard Oil Co. of New Jersey are running to full capacity. Oil carrying steamers ply the Panuco river as far up as the Panuco and Topila oil fields, the traffic upon the inland canal and Lake Tamaihua, which connect Tampico and Tuxpam, passing through the heart of the oil-producing country, has not been interrupted.

"At this time there are approximately 16,000,000 barrels of crude oil in storage at Tampico, and the territory immediately adjacent. All of the tank farms are carrying their full capacity of oil. An enormous enlargement of the storage facilities is in prospect as soon as the uncertainty in which the industry is now placed is removed.

"That all of the larger producing companies in the Tampico region are convinced that a material improvement in conditions will take place soon is shown by the fact that they are entering into large contracts for the delivery of oil in the United States and other foreign countries. One of these companies has made contracts aggregating more than 20,000,000 barrels of oil, the deliveries of which are to cover a period of four years. It is estimated that no less than 100,000,000 barrels of crude oil from the Tampico fields have been contracted for abroad."

DEVELOPING MANY WELLS NEAR FELLOWS

The Santa Fe is drilling a large number of new wells in the Fellows district, where it is claimed the company has the largest pile of casing above ground in the state. It is estimated that this pile of tubing and pipes is worth close on to a million dollars. The Santa Fe, which is known as the Chanslor-Canfield Co., is marketing considerable of its oil at the fancy price now being paid, but the railroad itself is using a large percentage of the output for its own locomotives.

The Santa Fe this year also will turn over the Sunset Western Railroad to the Southern Pacific under the five year agreement plan. The Santa Fe operated the line since early in 1912, and it is now the Southern Pacific's turn. Travel via the railroad is not very heavy owing to the enormous inroads which automobile stages have made into the business. The freight and express business continue heavy.

STANDARD OIL CO. (California) DIVIDEND

At a meeting of the board of directors quarterly dividend No. 31 of \$2.50 per share was declared, payable September 15, to stockholders of record August 15.

All communications regarding payment or change of address should be sent to the transfer department, Standard Oil Co., San Francisco, not later than August 15, 1916.

A WHITE OIL FUEL

The last issue of the London Petroleum Review, reports that the Anglo-American Oil Co., Ltd., will in a very short time have on the English market a "white oil fuel" which will prove a substitute for gasoline for motor propulsion. The Review says "the new fuel will naturally tend to bring to a minimum the trouble now felt in many quarters of securing motor fuel, and, from this point alone, deserves to be encouraged. But it will also appeal to motorists on account of the fact that it will be materially cheaper than motor spirit, and will too (at least for the time being) not have to pay the heavy tax placed upon the lighter products of petroleum distillation. It will not be possible to place upon this market all the supplies which may be necessary to entirely obviate the motor shortage, for the difficulties of ocean transport, will still exist; the new fuel will, however, meet a great want, inasmuch as the considerable supplies which will be available will appear on the market just at a time when the ordinary supplies of motor spirit are being utilized for other purposes."

No information is given as to the nature of the new article, but as its color is white and advertised as such it may be presumed to be a product of petroleum, probably of rather a heavier gravity than the ordinary gasoline. As England is at this time taking measures to cut down the use of gasoline and proposes a supertax on all cars, the appearance of a cheaper product for propelling cars will be a relief.

BERGSTEN GETS PATENT

Joe Bergsten, an employe of the Standford machine shop at the main camp, has been granted a patent on a safety elevator for the handling of sucker rods. The elevator has been tried out on a number of wells and with those who have used it is considered a great improvement over the usual elevator now in use over the fields. It is designed to save time in making the connections for the pulling of rods as well as to prevent accidents such as occur often in this class of work.

CALIFORNIA OIL MEN BUY WYOMING TRACT

The sale of the largest tract of oil bearing land known to have changed hands in many years was made recently when a tract of 66,000 acres in Wyoming was sold to California oil men for practically \$5,000,000.

"Jake" Ervay of National City, a part of San Diego, one-time cattle baron of Wyoming, and George S. Smith of Los Angeles, sold oil land in Natrona and Fremont counties, Wyoming, to Morgan Morgan, H. W. McIntire and W. D. Clair, local oil and mine brokers, representing an Eastern syndicate.

OIL WELL IS STRUCK IN ANNETTE SECTION

For the last year the Standard Oil Co. has had a crew of men engaged in drilling a well near Annette in the northern part of the county. Report is received from San Miguel that a good flow of oil has been struck. It is expected the well will prove to be a good producer, which means that a new field will be developed. It is claimed that the Parkfield district is along the same vein, and there will be further development there. At the present time several parties are held by prominent oil men in the region between Annette and Parkfield.















